1-1-1976

Special Libraries, January 1976

Special Libraries Association

special libraries

January 1976, vol. 67, no. 1

- ☐ Prison Libraries
- ☐ Budgeting
- ☐ Outreach Education
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- ☐ Information Retrieval Equipment
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SPLBA 67 (1) 1–62 (1976)
ISSN 0038-6723

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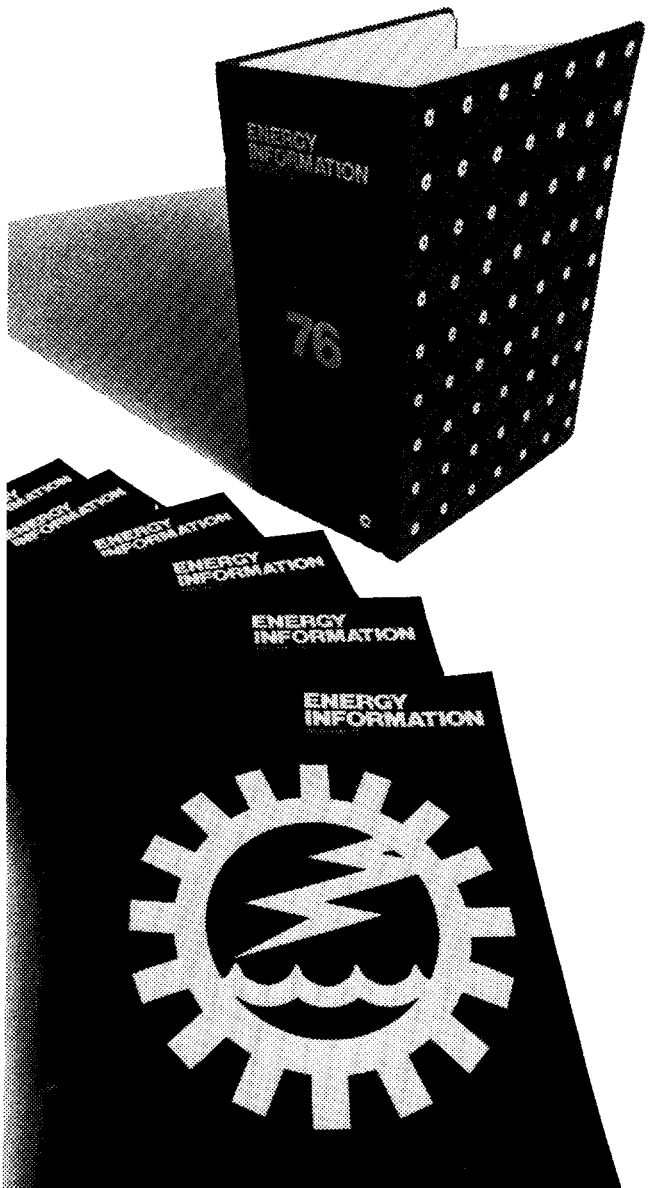

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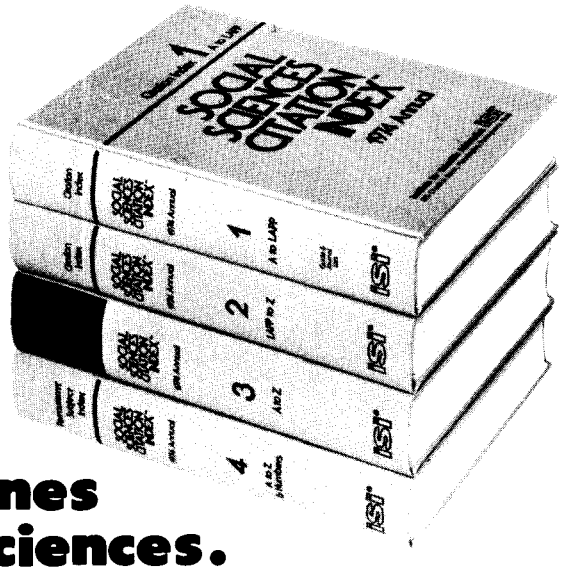

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JANUARY 1976
VOLUME 67, NUMBER 1

Editor: JANET D. BAILEY
Advertising Sales: JOHN ROCK

Assistant Editor: NANCY VIGGIANO
Circulation: FREDERICK BAUM

Special Libraries is published by Special Libraries Association, 235 Park Avenue South, New York, N.Y. 10003.

Second class postage paid at New York, N.Y., and at additional mailing offices.

Subscription Rates: Nonmembers, USA and Canada, $22.50 per calendar year; add $2.50 postage for other countries. $7.50 to members, which is included in member dues. Single copies (recent years) $2.75 except for October issue (Directory) which is $12.00.

Back Issues & Hard Cover Reprints: Inquire Kraus Reprint Corp., 16 East 46th St., New York, N.Y. Microfilm & Microfiche Editions (1909 to date): Inquire University Microfilms, Ann Arbor, Michigan.

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Indexed in: *Book Review Index, Business Periodicals Index, Information Science Abstracts, Historical Abstracts, Hospital Literature Index, Library Literature, Library & Information Science Abstracts, Management Index, Public Affairs Information Service* and *Science Citation Index.*

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LETTERS

Another Language

I read with interest the article by Miles Libbey on high level programming languages [*Special Libraries* 66 (no. 8):363–366 (Aug 1975)].

Although I agree with him that special librarians should do more of their own computer programming, I am less sanguine about his suggested choice of languages. With the exception of SPITBOL (Speedy Implementation of SNOBOL4), these languages operate through interpreters rather than compilers, which means that programs written in them will run much more slowly than programs written in one of the more widely available and better established languages such as PL/I, COBOL, or FORTRAN. Of these three, as Libbey indicates, PL/I is especially attractive because of its built-in character manipulation functions.

It has been some time since I last programmed in COMIT II, but I believe that Libbey's statement on p. 366, which reads

```
*A=//*RCR1,*WAM1/
```

is incorrect and should be

```
*$=//*RCK1,*WAM1/
```

Charles H. Davis
University of Michigan
Ann Arbor, Mich.

Indexing Overlap Study

We have read with interest the article by Bahaa El-Hadidy entitled "Bibliographic Control Among Geoscience Abstracting and Indexing Services," *Special Libraries* [66 (nos. 5/6):260–265 (May/Jun 1975)]. The readers of *Special Libraries* may be interested in an overlap study being done by the National Federation of Abstracting and Indexing Services (NFAIS).

The Federation, under contract from the National Science Foundation/Office of Science Information Services, is examining the amount of both journal and journal article overlap among fourteen major science abstracting and indexing services. The data collection was based on an expansion of methods used in a previous overlap study done by Chemical Abstracts Service, Engineering Index, Inc., and BIOSIS in 1970, *Journal of the American Society for Information Science* [23 (1):36–38 and 24 (1):25–28]. Each service was requested to supply a list of journals covered in 1973. These lists were then checked against a Master Serials File consisting of approximately 18,000 titles developed from the *Bibliographic Guide for Editors and Authors*, a product of that study. The file at the end of this checking-in phase contained approximately 26,000 titles. The file was then broken down into titles with overlap and titles with no overlap. We are now in the process of analyzing these journals for article overlap.

It is hoped that the information gathered will be helpful in encouraging cooperation of shared bibliographic descriptions of articles and also in reducing duplication of effort, thereby providing more efficient and economical service to both the producing services and the user community. However, it must be pointed out that redundancy does not imply unnecessary duplication, since two or more services may select the same article for inclusion in their system but may intellectually analyze the article content in quite different ways to serve the needs of their users.

Anyone interested in receiving further information about the Overlap Study should contact the Federation.

Toni Carbo Bearman
Karen Marateck
National Federation of
Abstracting and Indexing Services
Philadelphia, Pa. 19104

Special Libraries welcomes communications from its readers, but can rarely accommodate letters in excess of 300 words. Light editing, for style and economy, is the rule rather than the exception, and we assume that any letter, unless otherwise stipulated, is free for publication in our monthly letters column.

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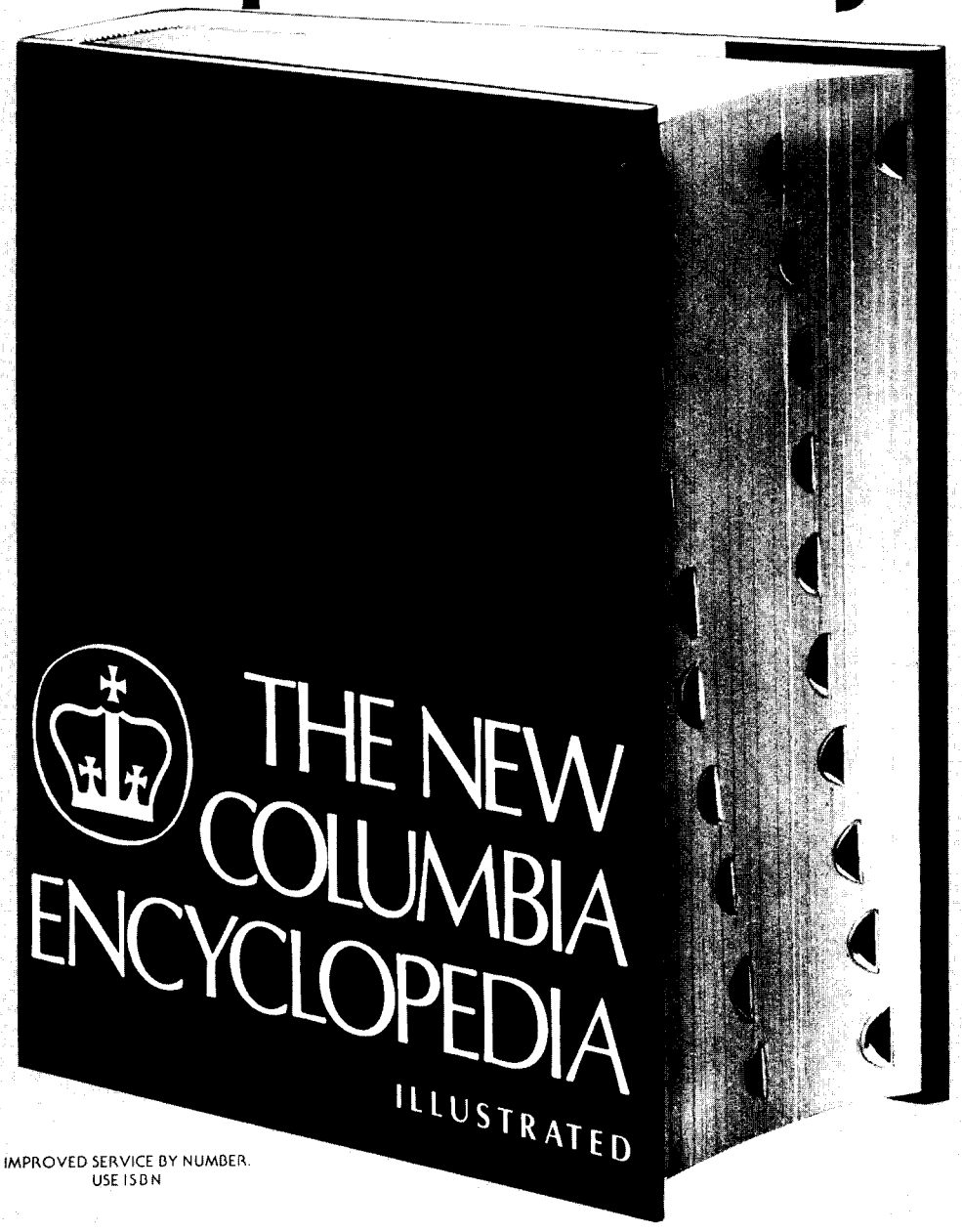

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Prison Libraries

Jean Marie Zabel

City Hall, Legislative Reference Bureau, Milwaukee, Wis.

■ An overview of the history of libraries in prisons is presented. It is mainly a compilation of events arranged first by chronology and then by state. Some states are not included due to lack of known information on them.

THE PRISON, as we understand the term today, is about 185 years old. Prior to that, the usual form of punishment was torture or if a murder was involved, the execution was in the same manner in which the victim died.

In American colonial times, the usual forms of punishment were public whippings, burning at the stake, enclosure within stockades, etc. In 1786, Thomas Jefferson introduced solitary confinement. At this same time, Pennsylvania attempted to reform offenders with the use of hard labor, such as ditch digging and street sweeping while chained to a heavy iron ball, instead of executing them or using corporal punishment.

On Mar 9, 1787, Dr. Benjamin Rush, eminent physician and signer of the Declaration of Independence, read a paper opposing this type of reform, and thus began the movement leading to our American prison system. He proposed imprisonment instead of public degradation and that such prisoners be put to work, since work was the road to regeneration *(1)*.

The Pennsylvania Prison Society, Rush's group, reformed the Walnut Street Jail by segregating the sexes and separating the convicts and debtors. In 1790, the first penitentiary was built in Pennsylvania. It was a separate cellblock within the Walnut Street Jail and was called the Penitentiary House. The criminals confined here were not permitted even a bed and certainly nothing but that which was necessary to keep them alive without endangering their health. There was absolutely no communication among prisoners. Other states followed this idea, but in a short time all prisons became overcrowded and ended up breeding more crime.

The late 1820s saw the beginning of two prisons which serve as models of the world's prison systems. Cherry Hill, the Eastern Pennsylvania Penitentiary in Philadelphia was based on the system of solitary confinement. Prisoners remained in their cells all but one hour each day, for exercise, and were never permitted any communication. The prisoner, however, was given tasks to work at in his cell, such as spinning, shoemaking, or metalworking. The Auburn Prison, built around the same time by New York State, sent its prisoners to work in shops but forbade them to talk to one another. They used cruel punishment, such as the sweatbox, to ensure silence.

After these prisons failed, the reformatory idea took over. Local groups, basically religious or humanitarian, formed the first national prison organization in 1870 in Cincinnati and issued the Declaration of Principles. The organization became the American Prison Association.

By 1910, the reformatory idea was dead, but the contribution it made is still with us today. Other innovations were tried, such as the industrial prison. This led to leasing prisoners to outside businesses. Another idea that failed was to let the convicts themselves run the prisons.

What exists now is a combination of these ideas. The one thing that carries over most strongly is the purpose of rehabilitation. Prisoners are classified and segregated according to their special needs and problems, be it physical, mental, or emotional. They are no longer

exploited for private profit and are given the encouragement of vocational and educational training and are permitted many of the basic freedoms of visitation, communication, etc.

Prison Libraries—Early Efforts

There is no record of the beginning of prison libraries. The Philadelphia Prison Society did provide books to the prisoners of the penitentiary of the Walnut Street Jail in 1790. Another early library attempt was made at the Kentucky State Prison in 1802. It seems that no real effort to establish libraries was made until the 1840's.

Lewis describes the situation as it existed in 1845:

> Only the better organized prisons maintained libraries; Connecticut has a small library; each prisoner was furnished also/ with a weekly temperance paper and a religious paper. Massachusetts had a library of several hundred volumes, initiated by a donation of $50, sent by the mother of a life prisoner to her son, to furnish him with proper reading. The prisoners in the Massachusetts prison made frequent donations to the library out of their earnings. The state appropriated in the 40's $100 annually for the increase and greater variety of books. Books were distributed at intervals of several weeks in prisons possessing libraries at the discretion of the warden and chaplain *(2)*.

1852 marks the opening of the San Quentin (California) library. It is important in the history of prison libraries because it was one of the best and most liberal prison libraries of its time, and this reputation remains today.

The Twentieth Century

The twentieth century prison stresses rehabilitation. This is the word that appears most often in literature dealing with correctional institutions. The need for service to the prisoner is often emphasized.

> While the methods, techniques and programs differ in each institution, the role of the institution is to utilize current knowledge and techniques in education, psychology, medicine, sociology, occupational therapy, and vocational-educational guidance in order to achieve its major purpose. It is within the context of the achievement of the goal of rehabilitation that the role of library science in state institutions must be defined *(3)*.

In most cases, the closest an inmate comes to any kind of rehabilitation is the prison library. That is why many librarians have donated their time and efforts to improve services to prisoners. They are now trying to get prison officials to see that libraries are important and a basic part of the rehabilitation process. But librarians are not the only ones who are requesting these services; the prisoners themselves are doing all they can to promote library service to prisons.

One prisoner who believes that prison libraries can help in rehabilitation is William Clontz, of the Montgomery Correctional Institution in Mount Vernon, Ga. He feels that a congressional committee should be created to investigate all institutional libraries on a regular basis and should make regular reports of its findings. He urges a follow-up program to insure that recommendations are implemented.

Political party platform committees and presidential candidates have been appealed to for support of adequate libraries in correctional institutions.

A Chronological Survey of Prison Library History

1911—The American Library Association (ALA) forms a committee on Libraries in Federal Prisons.

1915—The first edition of ALA's *Manual for Institution Libraries*. The prison library is part of the institutional education program.

1929—The beginning of the Federal Prison Library System.

1930—The federal government reorganized its prisons and some states attempted to model theirs after the federal example.

1931—The penal institutions of the U.S. have only one library-school-trained librarian at this time.

1932—The American Library Association Committee on Libraries in Correctional Institutions published the *Prison Library Handbook.*

1941—The American Prison Association established a Committee on Institutional Libraries.

1944—The California Legislature passed a Prison Reorganization Act creating a Department of Correction whose objective it was to carry out a unified program for the study and rehabilitation of inmates.

1946—The American Correctional Association (ACA) published the *Manual of Correctional Standards.* These standards became the basis of most prisons. In the chapter on library services, the *Manual* states that correctional institutions include in their policy statements, as a preface to the Library Bill of Rights the following:

> Libraries in a correction situation have a clear responsibility to support, broaden, and strengthen the institution's total rehabilitation program. The library should contain the free expressions of men in order to provide the individual inmate with an opportunity to study and evaluate materials in the light of his needs. The library program should provide an opportunity for education, information and recreation.

The recommended ending statement is

> This policy statement is directed to assisting in the selection of library materials. It is designed to contribute to the development of individuals and their restoration, as creative members of society, to the community *(4).*

The *Manual* included standards such as 10 books per inmate, a full-time librarian for every 1,000–2,500 inmates and expenditures of $1 per inmate. Some of the services that should be provided include orientation, reader guidance, information and reference service, interlibrary loan and booklists.

1950—The Committee on Institution Libraries of the American Prison Association published a *Library Manual for Correctional Institutions,* a handbook of library standards and procedures for prisons, reformatories for men and women, and other adult institutions *(5).*

1956—The Association of Hospital and Institution Libraries (AHIL) is founded. The name has since been changed to the Health and Rehabilitative Library Services Division (HRLSD).

1959—The survey on the conditions of correctional institutions is conducted under the auspices of the ACA.

1965—The American Correctional Association and the Association of Hospital and Institutional Libraries participated in a jointly sponsored inventory of library resources in correctional institutions for the ALA publication, *National Inventory of Library Needs (6).*

1965—The AHIL survey of prison library needs based on 294 institutions around the country, found that the nation's state prison library system is more than one million books below the minimum standards. Staffing was even more deficient; only a quarter of the libraries have professionally trained librarians working even part time. The federal system is purportedly better, but only 20% of the federal prison budget is allocated for all social services *(7).*

1966—The Title IV-A of the Library Services Construction Act (LSCA) provided to the states, on a matching basis, funds to establish or improve library service in state institutions. Funds could be spent for staff, materials, or equipment. Each state was required to survey present library service in its own state institutions, define standards and plan for meeting these standards.

1970—The new LSCA consolidated state institutional services into the general provisions of Title I (Public Library Services), stipulating that spending for state institutional services be no less than it was in fiscal year 1969 *(8).*

1971—The organization of two groups, 1) BLFI, the Black Liberation Front International and 2) ALERTS, the Associated Library and Educational Research Team for Survival. Both were formed to bring attention to the need for Black and ethnic material.

1971—The Association of American Publishers (AAP) began its project of Books for Prisoners. This was also the year of the Attica riot. Because of it,

there came an awareness for books in prisons. "The overriding goal of the Books for Prisoners Project is to arouse public, government and legislative interest to improve book collection and library services in correctional institutions at the federal, state and local levels" *(9)*.

The books were donated to 8 New York correctional facilities, the California Institute for Men at Chino and the U.S. Penitentiary at Leavenworth, Kansas. One hundred thirty-four out of 180 New York publishers participated, contributing 10,160 books, valued over $130,000. The books were donated on two conditions 1) no censorship, the prisons had to take all or nothing; 2) AAP would have the right to arrange the books and to obtain the prisoner reaction and evaluate the project.

Some of the conclusions and recommendations are as follows: 1) Prisoners want to read, will read and generally will take care of books. 2) Books should be chosen on the basis of the prison population. 3) The variety of books desired and read by inmates is wide. 4) Censorship in prisons is unconstitutional. 5) Reading should not be used as a reward, nor should restricted access to books be a form of punishment. 6) Prisons must prepare the inmates for release.

1971 (June)—The Legal Services to Prisoners Committee was set up by the American Association of Law Libraries.

1971 (August)—The American Correctional Association established a Committee for the Provisions of Legal Research Materials for Prisoners.

1971 (November)—The Supreme Court ruled on Nov 8, 1971, that indigent prisoners have a right to adequate law libraries.

1972—The U.S. Office of Education made a grant to the Institute of Library Research (University of California, Berkeley) to support a survey of library and information problems of prison populations.

1973—The Subcommittee of the Resources and Technical Services Division, Cataloging and Classification System (RTSD/CCS) on Subject Headings for Correctional Materials was established to investigate whether there was a need for new or revised subject headings for correctional materials.

1973 (November)—The Bishops of the U.S. published a formal statement; *The Reform of Correctional Institutions in the 1970's*.

1974—The Bibliotheraphy Committee of the HRLSD formed a Research Subcommittee which produced a rough draft of a proposal for research in bibliotheraphy in correctional programs, based on ideas of an informal group of librarians, psychologists, correctional personnel and others from Illinois, Indiana, and Wisconsin *(10)*.

1974 (October)—The first issue of the Newsletter, *Inside-Outside*. Its aim is to exchange information about programs inside and outside the institutions.

State by State Look at Prison Libraries

Alabama. Alabama hired Robert J. Brooks, Southern Illinois University, Center for the Study of Crime, Delinquency and Corrections, to evaluate the library setup in State correctional institutions and conduct a one-week course in contemporary corrections for library technicians working in these institutions *(11)*.

Arizona. In 1924, the prison at Florence began receiving books from an altruistic person. By 1959, there was a collection of several thousand donated volumes, including parts of some periodicals.

Arkansas. Title IV-A funds for this state went to the improvement of library services in two institutions, Hot Springs Rehabilitation Center and Cummins Prison Farm.

California. California has two pilot projects. A two-year project involves the Los Guilucos School for Girls. For the first year, the county library is contractually providing service through the use of a bookmobile and deposit collections of books. The second phase of the project demonstration will see the establishment of a permanent library on the campus to be operated under contract as a branch of the County Public Library.

Connecticut. Connecticut has made all state prisons into a single school district, which gives the prisons funds from the educational budget of the state.

The Niantic Prison Farm for Women in Connecticut, produces a union catalog of holdings of many libraries in the state.

District of Columbia. D.C. serves her prisoners with film and book discussion pro-

grams offered by the D.C. Public Library. D.C.P.L. also has a weekly bookmobile service to all D.C. correctional institutions with the exception of the Women's Detention Center and the Jail, which because of their locations, are not suitable for bookmobile service. Legal materials are available at each institution, and each facility has a photocopying service.

Florida. Because of a library survey of Florida's correctional institutions, there are improvements in the service to Florida's prisoners. Twenty road prisons are provided with sets of basic reference material in the Project "Operation Reference."

Florida is also one of the states to have all their prisons tied into the school districts. This state also has a bookmobile service to local prisons from the public library systems.

Georgia. Georgia is conducting an experimental demonstration in which two model book collections will be developed, one for correctional institutions and the other for mental institutions. The collections are expected to be useful in developing other libraries. They will be evaluated annually and new titles added. Georgia's program also includes an experimental demonstration of the use of paperback books in four correctional institutions and in three smaller prison branches *(12)*.

Idaho. Through federal funds and matching funds of $28,000 supplied by the larger institutions, all eleven state institutions received state library appropriations to develop their own library programs. Long-range plans included a coordinated program for the major public library in the area of each institution to serve it through contract with the state library. In 1968, libraries began to serve institutions in three cities and the State Penitentiary *(13)*.

Illinois. Illinois is still another state taking the slightly different approach in making all their state prisons into a single school district, thus giving prisons access to library funds from the state's education budget.

Illinois was the first to plan for total service at the state level. The Illinois State Library and the Dept. of Corrections have awarded legal library service grants totaling $163,-355.50 to five Illinois library systems for the provision of legal library services to residents of adult correctional institutions located in the system areas. Backup service from the library systems and the legal collections of the Illinois State Library, University of Illinois, Southern Illinois University, and Chicago Public Library will be available to residents of each facility *(14)*.

In 1968, the Illinois State Library, under Title IV-A of the LSCA, sponsored a survey. It analyzed the library facilities, services and programs in the institutions of five departments (Youth Commission, Public Safety, Department of Children and Family Services, Public Health, and Mental Health) of the State of Illinois *(15)*.

In 1970, the Illinois Department of Corrections, in cooperation with the Illinois State Library and nine public library systems in the state, established a $200,000 program for community-based library service to six adult and twelve juvenile correctional institutions in Illinois. Both interlibrary loan and research and reference services will be available *(16)*.

In 1972, the State of Illinois, Department of Corrections, Bureau of Detention Standards and Services published the Illinois County Jail Standards. It included nearly two pages listing factors in setting up a library that would work toward the rehabilitation of its prisoners. The factors include physical facilities, staff, donations and the need for cooperation with the public library.

The project, "Regional Library System-Based Service to Residents of State Correction Facilities," begun in April 1972, was conducted in 23 Illinois correctional institutions. In December 1973, the Illinois Department of Corrections supported the State Library in the General Assembly for an appropriation to the State Library to continue the "Regional Library" project.

Jul 1, 1974, the library systems officially became responsible for providing all library services to the Department of Corrections and its facilities *(17)*.

Maryland. The Survey of Maryland Adult Correctional Institution Libraries published in August 1965, is a study of and the future plans for adult correctional institution libraries in Maryland. In 1966, a pilot library was to begin at the Maryland Penitentiary (to be supported for the first two years by a grant). In 1967, the establishment of a supervisory library division in the Maryland Department of Correction, and the library organization at Maryland Institution for Men at Hagerstown was scheduled to begin. In 1968, the Maryland House of Correction and Maryland Correctional Institution for Women was to be established.

Massachusetts. At the Middlesex County House of Correction in Billerica, Mass., the library was begun with thousands of paperbacks donated by the Murray Printing Co., $200 from the Inmates Canteen Fund, and donations of used books. The Simmons College of Library Science sends graduate students to instruct the inmates. The local collection is

supplemented by the Eastern Regional Library Association Bookmobile; the Bureau of Library Extension, State Department of Education; and interlibrary loans from the Boston University Law School Library *(18)*.

Michigan. Michigan has a bookmobile service from Michigan State Library to the correctional institutions throughout the state.

Minnesota. In 1853, the Minnesota State Prison at Stillwater used visitor fees to purchase books for the prisoners. The prison burned in 1884 and most of the books were destroyed. By 1887, there were 1,000 new books, purchased in part through a $250 personal loan from the warden and $150 provided by the prison paper *(19)*.

A Minnesota State Prison conducted a survey and found that there were similar reading habits between their inmates and the regular patrons of the public library. (This finding is not uncommon. Most surveys had the same results, although some found that the inmates read more due to the confined environment.)

Hennepin, Minn., County Library had a book drive in which 40,000 used books were collected and distributed to the prisoners. The state's National Guard supplied the trucks to transport the books to the prisons throughout the state.

Mississippi. In the spring of 1973, the Jackson Metropolitan Library System started a federally funded prison project. Three hundred titles of paperbacks were donated. The prison officials reported a high circulation among the cell blocks.

New Jersey. The Rahway State Prison library is supported by a federal grant and state allocated funds. The prison library has a part-time librarian from the Woodbridge Public Library. This public library also provides many services to the inmates. Rahway also has a law library which is separate from the prison library.

New York. The most famous prison in New York is the one at Attica. Books there have become especially important since the riot in 1971. A service of Books-by-Mail is an inexpensive and successful operation provided by the Wyoming County Library System. The circulation is high and there is only a 6% overdue rate. In 1972, a sizable grant was made available to Attica under the LSCA (Library Services and Construction Act) to support a project providing paperback books for the reading interest of the inmates. In 1973, the New York State Legislature made possible, by an appropriation, a mail-order book catalog.

North Carolina. Western Correctional Center at Morganton, N.C., has received LSCA funds for books and equipment. State funds provide for periodicals and supplies. The collection is, however, entirely recreational. It includes records and large picture books. Selection and cataloging are done in Raleigh and then books and information are either mailed or brought to the center.

Oregon. The Oregon chapter of the American Association of University Women has initiated a prison library service program whereby public and community college libraries will provide recreational and educational materials to city/county jails. The AAUW went to the State Library for funding, and received $11,494 in LSCA Title I money and $17,475 in LSCA Title III funding for the project *(20)*.

Pennsylvania. The Free Library of Philadelphia, a city institution, has for some years been upgrading library services to the prisoners of Philadelphia and has recently applied for $76,000 from a general allotment available from the Federal government to the Pennsylvania Department of Education *(21)*.

The New Castle Public Library reports that resistance to library services to prisoners is being overcome there. Their first attempt in 1967 failed, but two years later they were serving the prison community with a bookmobile service and had a collection located in the prison's cellar.

Texas. In 1915, the prisoners of the Texas State Penitentiary appealed to the citizens of the state for books. Texas now carries on a bookmobile service. Texas' prison system is locked into the school district approach. This is the method where funding comes from the state's education budget.

The Sam Houston State University's Department of Library Science has received a Title II-B Federal grant to hold a year-long institute for training correctional institution librarians. The institute began Aug 31, 1974, with eight women and 12 men participating.

Utah. A request was made to the Utah State Legislature in January 1973 for $15,000 of state funds to be used to establish a legal library at the prison. The request was rejected. Then an application to the Law Enforcement Agency was made and $6,000 was granted.

Virginia. Funds from the Law Enforcement Assistance Administration have been granted to four cities in Virginia's Tidewater (Planning District No. 22)—Norfolk, Chesapeake, Virginia Beach, and Portsmouth. Grants range from $7,500 to $25,000, which can be used for anything necessary to set up prison libraries.

Wisconsin. As early as the 1930's, Wisconsin had shown achievements in library service to prisoners. In Wisconsin, the State Free Library Commission offered inmates the same privileges as were available to other citizens. Apparently there were no collections in the prisons and no attempt was made to set one up. Inmates could choose and order from reading lists supplied, although they had to pay postage one way. The Milwaukee Public Library has an interlibrary loan service to many of the institutions in the state.

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Received for review Jul 7, 1975. Manuscript accepted for publication Jul 21, 1975.

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Budgeting for Libraries

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■ In the past the major portion of the industrial library budget, as high as 90–95% of the total, was consumed by personnel and literature costs. Empirically and rationally derived bases for determining the costs for libraries are suggested. Recent accounting procedures and the advent of new technologies have introduced costs into the library budget so that literature and personnel costs may now account for only 75–80% of the library budget.

A LIBRARY BUDGET is a statement of the estimated or planned expenditures for the fiscal year. The correlation between the budget and the subsequent financial statement is determined by such factors as the validity of the data used in the construction of the original budget, the knowledge, experience and luck of the budgeting librarian in the manipulation of the data and forecasting the future, and finally, the discipline exercised by, or on, the library manager in making the actual expenditures conform to the budget.

There are three basic approaches to library budget formulation. Established libraries which have been blessed with relatively adequate budget support in the past can review previous years' expenditures, determine trends and make an extrapolation to forecast the requirements of the coming year. In the 1974–75 recession period a number of libraries were arbitrarily given a reduced amount within which they were to operate during the next budget year. The third and ideal approach is the use of library statistics and the data originated by the trade, library associations and government to construct a rational, defendable budget.

Data Sources

The public and academic libraries are fortunate in having had access during the 1950s and 1960s to extensive collections of statistics compiled by the Association of Research Libraries and the U.S. Office of Education. These data gave them a statistical base from which they could create standards, or at least guidelines, to assist them in budget formulation. Nothing comparable exists for the industrial library.

A limited amount of data pertaining to, or originated by, special libraries have been published by the Special Libraries Association in *Special Libraries*. Included among the publications have been "Objectives of Special Libraries," "Profiles of Special Libraries," the triennial salary surveys beginning in 1967, and an occasional unrelated article on statistics or costs.

Statistics on book and subscription costs, carried annually in *Publishers Weekly* and the article each year in *Library Journal* on the entrance level salaries for new graduates of library schools are useful to the special librarian

as well as to the academic and public librarians. Most of the data usable in budget construction are summarized in the Bowker Annual but because many of the tables are reprinted from the original publication, it is necessary to go to the original source for the most recent statistics.

Budget Construction

Special librarians have made such a fetish of claiming to be different that the uninitiated might assume there is no basis for comparability among the industrial libraries. This is not true. The three major elements of expense for almost all industrial libraries are salaries, books, and subscriptions. Guide lines on all three can be established for assisting the library manager in budget construction.

Salaries. Ruth Leonard, in the "Objectives" suggested that personnel costs should run between 60% and 79% if overhead costs are not included in the library budget. When salaries, book, and subscription costs are considered as an entity, it is suggested that salaries should range between 50% and 70% of the entity. The range is justified because the demands placed on the library staff vary depending on the disciplines to which the library users belong, the nature of the information requirements of the users, their geographic dispersion in relation to the library, and the service traditions of the installation.

There is an interest in determining the relationship of staff size to the number of library users. In an industrial environment there is no readily acceptable definition of library user. However, in most libraries borrowers are easily and accurately countable. For this paper borrowers will be equated with users in full awareness of the inadequacy. Although special library statistics do not provide a basis for deriving a number for staff size as related to users, it is empirically suggested that one library staff member is required per 60–80 active borrowers.

The make-up of the staff can be considered from two different directions. Because the ordering, receiving, cataloging and catalog maintenance functions require approximately one-third of the industrial library manpower, there should be two readers' services/administration staff members for each technical processing staff member. The nature of the library activity is such that the professional members of the library staff should be given adequate clerical support. To achieve this, the ratio of clerical to professional staff members should range between 1:1 and 3:1. Only in the larger libraries where specialization can be achieved is it likely that the 3:1 ratio is possible.

The two sources of salary information are the Carlyle Frarey annual article on entrance level salaries paid new graduates of library schools and data from the triennial SLA salary survey. In 1973 the average entry level salary was $9,500; the SLA 1973 survey reported an average salary of $14,000. Because special libraries should not be exclusively staffed with new graduates, the SLA average is proposed as the basis for computing the professional staff salary costs.

There are no comparable data on salaries paid the library clerical assistants. In the typical industrial environment, the functions performed by the library assistants are frequently underrated as compared to those done by the clerical, stenographic and secretarial employee. Not only does the library assistant have to have above average clerical skills but must also have detailed knowledge of complex procedures and an extensive knowledge of at least the arrangement of the library resources and holdings. In many situations, the library assistant is expected to work with minimal supervision, act independently and exercise judgement. In terms of the 1973 dollar, the salary range for the experienced library clerk seems to range between $7,500 and $11,000 with an average of about $9,000.

Book Costs. In determining the number of books the library budget should accommodate, two guide lines are offered. For each library borrower, the library should plan on having to acquire two to three books per year. A more logi-

cally derived number can be obtained by determining the number required to keep the book collection on the current side of obsolescence. In a library providing information support to personnel engaged in a changing technology, an out-of-date book used to solve a current problem may be counter-productive. Even in a discipline such as mathematics, the library user has a right to suspect and object to an acquisition program which does not result in a reasonable number of current titles in the collection.

In an established collection it is necessary to replace 10% of the book collection each year if the average age of the titles is to be less than ten years old. If only 90% of the collection is to be replaced in 15 years, the acquisition rate must be 6% per year.

To determine the cost of the book acquisition program, obtain the average cost of the type of book added to the collection and multiply by the number of books to be added to keep the collection current. *Publishers Weekly* reported in its February 3, 1975, issue that the average science book cost $20.83 in 1974 while the average technical book cost $17.74 in that same year.

Subscription Costs. It is not as easy to obtain a defensible estimate for library subscription costs as it is for books. On the basis of number of subscriptions per borrower, a figure between 1.5 and 2 is suggested. Because the unit cost of a journal subscription is much higher than it is for the average book (science books in 1974 averaged $20.83 while subscriptions to chemistry-physics journals were $65.47) and because the journal collection is considered to be of more value to the scientific user than the book collection, an expenditure of two to three times the book budget was warranted in 1974.

To see how a budget would be constructed for books and journals with the suggested numbers, consider a hypothetical library with 30,000 books and having 800 chemists and physicists as users. At a 6% replacement rate, the book budget would have been $37,500 in 1974 (30,000 × .06 = 1,800 × $20.83 = $37,494). With only 1.5 subscriptions to chemistry and physics journals for each user, the subscription cost would have been $78,500 (800 × 1.5 = 1200 × $65.47 = $78,564). For these conditions, the subscription costs were slightly more than twice the book budget.

Estimating the cost of periodicals to be two to three times the book budget can not be arbitrarily used in the future because, for the past eight years, the annual increase in subscription costs for chemistry and physics journals has averaged 24% while the increase in book costs has grown only 9% per year.

Minor Budget Elements Common to Most Libraries. In addition to the three major items, most industrial libraries also budget for binding, supplies, and travel.

The selection of the journal titles to be bound is governed by the probability of subsequent use, the space available to house the bound journal collection and the adequacy of the library budget. Unless there are overriding reasons for doing so, journals which are not indexed or abstracted in the secondary journals should not be bound. The records of past use can be of assistance in selecting the titles to be bound. A word of caution. Many journals which are browsed by users to be kept informed of current activities need not be bound. Therefore, the decision to bind should be based on the records of use of journals which are at least one-year old when they are borrowed, read, or photocopied.

As a basis for budgeting, the librarian whose collection can grow should plan on binding a number of volumes equivalent to 80%–150% of the titles on the subscription list. Translated into usable numbers, a library with a subscription list of 1,200 titles should plan on binding 1,000–1,800 volumes a year. There is no correlation between a publisher's volume and a binder's volume. Some publishers volumes are so small that two or three should be combined for binding; in other cases a publisher's volume must be separated into three, four or even more binder's volumes. Binding costs vary according to the size (height) of the volume, the amount of work to be done and the interest of the binder in getting new

contracts. For estimating purposes in 1975, $7.00 per volume could be used.

The cost of supplies will depend on how effectively the company stationery store meets the library's requirements. The library should plan on having to purchase such unique supplies as book pockets, date-due slips and interlibrary loan request forms. Nothing in the literature is known which provides guidance on this budget item. Although few of the supplies will be used with the books, it is suggested that the supplies budget be equivalent to $.50 per book purchased.

Each professional member of the library staff should be encouraged to participate in professional society activities by being reimbursed for travel to at least one meeting a year. Staff members who are elected or appointed to major offices or who are invited speakers should be entitled to attend more than one meeting. To accommodate this expense, the library should budget $400–$600 per professional staff member for travel.

Budget Elements for Which Guide Lines Are Not Formulated. The two areas in which guide lines are not formulated are costs unique to an installation and the costs recently engendered by the new technologies. Uniqueness justifies the first exemption; insufficient experience explains the second.

Budgeting and accounting practices vary not only from company to company but frequently from location to location within a company. As a result, the budgets for some libraries include items such as rent, overhead, and service charges. Inasmuch as these costs are determined by local policies, there is no way to establish guide lines of general applicability.

The new technologies have resulted in expenditures which are new to the library community. The improvements in photocopying techniques have resulted in a basic change in interlibrary loan practices. Books are still loaned from one library to another but when a library user needs an article in a journal not held by his library, the requirement is filled by the holding library sending a photocopy of the requested article rather than the lending of the issue or bound volume containing the article. There is no standard fee for the service; it ranges from no cost to a service fee plus per page charges of $.50 or more. This charge may be augmented in the future by the addition of a royalty fee for the copyright owner.

During the past three or four years there has been a dramatic increase in the number of commercially available data bases pertinent to library services in two areas. Companies such as SDC (System Development Corporation) and Lockheed are offering on-line information retrieval services from bibliographic data bases created by the government, institutions and commercial organizations. The MARC tapes created by the Library of Congress are an integral element of the commercial cataloging services offered by OCLC (Ohio College Library Center) and firms such as Jostens, Inforonics, and Information Dynamics.

The commercially available on-line information retrieval services have charges which include telephone line costs, connect on-line costs which range from $25 to over $100 per hour, depending on the data bases accessed, the off-line printing charges ranging from $.04 to $.10 per item determined by the format required plus the cost of the terminal in the library.

The industrial librarian who is curious as to how he can justify to management the costs of on-line computer searches has been given some help by Stanley Elman in the January 1975 issue of *Special Libraries*. In 1973, Elman recorded the time required to make 48 manual searches. He reported that the average search required 22 hours at a cost of $220 plus a $30 support charge. Between May and September 1973, Elman's library also performed 66 searches using the Lockheed DIALOG on-line retrieval system. The average search required 45 minutes and cost $47.

For years many libraries found the 90%–95% of their budget covered their literature and personnel costs. Within the past five years, because of the impact of the new technologies, these libraries have found that the literature and personnel charges now account for only 75%–80% of their budget.

Conclusion

With relatively few exceptions in isolated cases, the value of information supplied by libraries has not been determined. It is possible, however, to present a budget justification to management which merits approval on rational grounds. It is hoped that this presentation will assist librarians in the formulation of budgets which are accepted and which will enable them, the library managers, to provide the level of service expected of special libraries.

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Received for review Apr 4, 1975. Manuscript accepted for publication Aug 8, 1975. This paper is based on a presentation given at the Janus Seminar sponsored by ASIS and the New York Chapter of Special Libraries Association on Jan 24, 1975.

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Utilizing Public and Special Libraries to Serve Post-Secondary Education

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■ A popular concept in higher education is outreach. With the promotion of the external degree and continuing, independent education for adults in this country, libraries of all kinds have gained new importance. Several examples are given of libraries supporting the learning society. Among these are the Dallas approach to college-level exams and the roles of various special libraries in serving outsiders and those within their own organizations.

DURING the past 20 years there have been vast changes in higher education in the United States. In the late sixties it was subject to questioning, restlessness, and rebellion. Students searching for a different kind of learning beyond secondary school launched new kinds of experimental educational experiences. *Relevance* became the watchword.

Students from previously neglected minorities began to be admitted in significant numbers to American colleges and universities. Some of them used the campus as a base for "outreach" work in minority communities. Others demanded and got changes in their instruction including a series of new curricula based on ethnic studies.

Reprinted with permission of the author and publisher from E. J. Josey, ed. / *New Dimensions for Academic Library Service.* Metuchen, N.J., Scarecrow Press, 1975.

Royalties from the sales of this book are being donated to the Roy Wilkins Scholarship Fund.

By the beginning of the seventies, a number of forces acting in concert upon institutions succeeded in opening up the system of higher education. Procedures for instruction and curriculum sacrosanct for years were now open to question. Ethnic studies, inner city tutoring, and other experimental programs became part of the established institutional pattern. Now, in the significant seventies, the people of the United States are beginning to grow familiar with new ways of securing baccalaureate and advanced degrees—ways which are novel in this country but ancient and familiar in other parts of the world.

The University of London, established in 1836 to conduct examinations and to confer degrees, has been granting external degrees for over a hundred years to students who do not need to put foot inside the university. Currently there is the Open University, also in Great Britain, which is specifically designed for adults, particularly those employed full-time. No academic bars to admission were set by OU, though in filling the first 25,000 first-

year places available in 1971 from among 40,817 applicants seeking to take 62,147 courses, some balancing occurred in terms of occupation, geographic distribution, clarity of purpose, and course desired (*1*). These two examples of the external degree in England, as well as others, have caused U.S. educators to consider profoundly their own plans and possibilities.

The External Degree

The external degree has come suddenly and powerfully to the attention of the academic community. It is one of the most fashionable topics for discussion in the intellectual world today; newspapers have devoted columns to it, magazines have carried numerous articles about it, new colleges to provide for it have been created, and foundation grants have been made in support of it. The external degree is an emotional subject, condemned by some, praised by others. The term itself has come to have countless meanings. Alan Pifer, president of the Carnegie Corporation, said that "the external degree—one that can be earned by a student outside of the normal institutional framework—is an idea whose time seems to have come in this country (*2*)." There is a whole new set of ground rules as to how degrees are awarded, who should get them, and what kind of studies should be recognized as valid. Nontraditional study is not just study outside the regular disciplines, but an attitude which

> *puts the student first and the institution second, concentrates more on the former's need than the latter's convenience, encourages diversity of individual opportunity rather than uniform prescription, and deemphasizes the time, space, and even course requirements in favor of competence, and where applicable, performance* (2).

Evidence of the growing importance in the United States of informal, less highly structured learning experiences can be found in the following comparison: in 1960 the education core (elementary, secondary, undergraduate, and graduate private and public schools) had an enrollment of 48.4 million, or 63% of those engaged in all forms of education. In 1970 the enrollment rose to 63.8 million, but the proportion of the total represented by the core dropped to 51%. Comparable data for the education periphery (industrial, organizational, neighborhood, and other programs) show a 1960 enrollment of 28.3 million, or 37% of the total (*3*).

As the number of persons undertaking some form of informal but organized learning begins to exceed those within the traditional programs, books, libraries, and librarians take on even greater importance, and access to them must be provided in new and varied ways.

Public Library Services

Traditionally, public libraries have been stimulated to develop new modes of services to their users when social changes have made clear the gap between the client and the library. The public library has accepted its role as a learning center for more than a century, although passively in many instances. But technological advances and social change combine presently to make new the meaning of the phrase, "a community learning center."

People want to learn, to continue to learn in the voluntary sense of "lifetime learning," unhampered by the requirement of the single-track, laddered educational system so long prevalent in this country. Many persons want to be able to choose their educational paths more freely and with flexibility, and to continue education at any point more easily.

The range of possibilities for the public library in its shaping of services to special clientele is great. Libraries have a decisive role to play in supporting the learning society. For one thing, they are unique in having no educational bias. They can serve as a catalyst for all learning resources in the community—schools, colleges, industrial laboratories, talents of local residents, and so forth. Public libraries can no longer be enclaves in an alien community. They are "in the unique position of becoming course counselor,

materials resource person, and instructional go-between for those students who want an unstructured higher educational experience" (*4*).

Independent study is now evolving in many forms and formats. The forms that challenge the public library to this new role are those that rely on exemption examination—based on earlier study, reading, or life experience—and on competency examination after a program of independent study to confer credit equivalence. Such forms of independent study, once availability through the public library is known, will no doubt also be pursued by adults who merely wish to learn and who have no plan for, nor reason to pursue, degree programs. In short, learning materials, organized in a study center and attractive in their presentation, can and will stimulate adults to use the public library as a learning center for independent study.

Most libraries and librarians have had no exposure to independent study programs which would give them the incentive to carry them out in their libraries. Cognizant of this fact. The Office of Library Independent Study and Guidance Projects, headed by José Orlando Toro, director, an activity of the College Entrance Examination Board, has come up with *A Design for Learning in the Public Library: a Program for Adult Independent Study—a Unique Plan for Extending the Learning Resources of Libraries* (*5*). Sponsored by four national agencies, public and private—the Council on Library Resources, the National Endowment for the Humanities, the Bureau of Libraries and Learning Resources (U.S. Office of Education), and CEEB—several public libraries geographically distributed throughout the United States and varying in size were selected and are currently participating in the pilot project experiment. Among them are: the Dallas Public Library; Miami-Dade Public Library System; St. Louis Public Library; Denver Public Library; San Diego Public Library; Portland Public Library (Maine); and the Worcester Public Library and Central Massachusetts Regional Library System.

The Dallas Experience

To help launch its Independent Study Project, the Dallas Public Library issued an eye-catching booklet by the same title which details the essential information of the program. The booklet lists the study materials available, describes in detail the College-Level Examination Program (CLEP), names the participating institutions, and concludes by addressing some succinct statements to employers about what CLEP could help them achieve:

CLEP's basic philosophy rests on the observation that there are well-qualified and mature adults without college degrees whose equivalent college-level achievements have not been properly recognized. Within any company there may be such individuals working in low-level positions, demonstrating responsibility and loyalty to their employers, who have more to contribute. By virtue of their experience and past training, they might be as well qualified for a better position and for further educational development as a new college graduate brought into the company by outside recruitment.

Employers have an opportunity to tap this source of talent by utilizing the Independent Study Project's materials and by recognizing CLEP credits.

CLEP can help a company to:

Tap a source of talent that may have been previously ignored.

Develop a potential pool of well-educated employees within the company's ranks to meet future needs.

Utilize its best human resources in communities where local shortages of professional personnel exist.

Secure greater benefits and lower costs from company-subsidized tuition payments.

Improve and establish good company-employee relations (*6*).

The Dallas Public Library's efforts show sensitive judgment and understanding of the role of the library in assisting many learners willing to try independent study.

The success of the Independent Study Project, a two-year pilot program (1971–73) in the Dallas Public Library, has been documented in an attractive report:

. . . students had earned 850 aggregate hours of college credit through ISP and CLEP examinations. Defined in years of credit, ISP students had earned a total of 28 years of college credit. This represents $18,000 to $60,000 worth of college credit which otherwise would have been out of the financial or available-time reach of the students.

Yet the ISP program . . . cannot be measured in hour or dollar values. It is impossible to measure the self-satisfaction, the self-confidence, pride, the increased enthusiasm for the world and for life, earned by those ISP students. And the rewards in realizing they had done it on their own.

The project brought new opportunities, new horizons, new concepts, new information. All essential to the continued growth of man's greatest asset—the human mind (*7*).

Other programs are being designed or are in operation, among them the Regents External Degree of the New York State Education Department, Empire State College of the State University of New York, the University Without Walls, Syracuse University Research Corporation's Five-County Project (also in New York State), Minnesota Metropolitan State College, and the two new statewide plans being projected by the university and college systems in California (*8*).

How Special Libraries Participate

Another kind of library resource available in limited degree to the independent learner is the special library, created for and serving a definite group of users. Special librarians work for commercial, industrial, governmental, or nonprofit institutions, such as research organizations, banks, manufacturing companies, newspapers, local state and federal government agencies, hospitals, insurance companies, museums, very specialized departments of public or university libraries, and so forth. In general the collections and services are not open to the public, but are limited to the staff of the organization in which the library is located. Increasingly, though, as some companies become public relations oriented and assume a more positive social responsibility role, their library collections are being made available to outsiders on some kind of limited basis or through interlibrary loan.

Some of the aerospace and other special libraries in the southern California area, for example, have made a special after-hours effort to serve students who are sometimes restricted in the materials available to them, especially if they are in a location served only by a small public library or are without access to a major network.

Since librarians themselves are an educational resource, trained to know all the educational possibilities, where to go first, and next, they become, in many communities—whether public, school, college, or special librarians—a network of referral and exchange information (*9*).

Within their own organizations, special libraries are contributing to the external degree concept with a great deal of relevancy. *Time* magazine has had in operation a program which allows its employees to take adult education courses in any subject and for which the company pays most of the fees. As a result, employees of various educational levels can grow in the knowledge and enjoyment of the field of their interest. In a communication-oriented library, such as *Time*'s, there are vast holdings in the general reference area plus many specialized materials from which the employee-user can find assistance for the courses which he or she is taking.

Large corporations such as General Motors and General Electric encourage their employees to attend management seminars. Materials for their assignments and idea-provoking bibliographies are often provided by their own special libraries. These executives (top or middle-management) are continuing the learning process to make them grow in their jobs, long beyond the earned degree stage.

In an electronics firm in the Southwest, an interesting educational experiment has been successfully tried, with the plant employees gaining additional instruction in courses of their selection by closed-circuit TV. In an increasingly sophisticated technology, they need to know the latest

in skilled and semi-skilled techniques. This takes them beyond the basic technical institute courses they needed to obtain their positions in the first place. The Science-Technology library of the firm can assist with reading lists, literature searches, acquisition of textbooks for the courses, and routing of the latest periodical articles.

Union organizations sponsor outstanding educational programs and institutes. The AAUW, with its impressive Detroit headquarters and many local chapters, has always contributed toward and encouraged the continuing education of its members. The labor collections (with many other related subjects in their special libraries) have continued to add to the American worker's varied background, which has placed him or her in a leading position among the laboring classes throughout the world.

Chase Manhattan Bank and other large banks have initiated training programs for high school graduates (often with emphasis on the disadvantaged groups)—an on-the-job training approach. Their libraries can contribute to the educative and training process by helping familiarize the participants thoroughly with the subject field (e.g., banking, finance). All of these persons are using components of the independent study concept—not seeking a degree in a formal sense but seeking knowledge for their own individual enrichment and eventual contribution to solving the social problems of the country.

In this context, there is the area of reclaimed "women-power" (after children have grown, going back to work). The reentry of women into the work force is a monumental contribution. The process of "going back to work" requires brushing up, and often they come to a business collection of a special or public library for this purpose of re-learning.

These various examples illustrate the degree to which the independent learner is an increasing force in American education. The library, whatever its categorization, will be called upon to participate actively in this welcome revolution. Educators are becoming more active in the process of social change; libraries should be too. It is essential that librarians become active rather than passive participants in the whole program of education, that they become partners with educators and with all the citizens that they serve in their communities and who potentially would be users of library resources. Public and special librarians—in truth, any kind of librarian—would heartily concur.

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Received for review Jun 13, 1975. Revised manuscript accepted for publication Jul 21, 1975.

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Networks

The theme of SLA's 1975 Annual Conference was "Systems and Networks: A Synergistic Imperative." Papers were presented on all aspects of networks, particularly as they affect and are affected by special libraries. It was an educational process—learning about the many systems already in operation. *Special Libraries* is pleased to present many of these papers in its next several issues. The papers have been edited for written presentation and, whenever appropriate, have been updated for publication.

The first two of these papers are presented here. These discuss the Illinois Regional Library Center from two points of view. Hamilton's paper is a description of the center and its activities. Benson's paper briefly describes the center but focuses on special library participation.

It is hoped that these papers and future ones will serve to increase our readers' awareness of network activities.

JDB

Why Special Library Participation in a Metropolitan Network?

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■ Special libraries need to be aggressive in participating in all phases of the genesis and development of the network, including the planning process, the making of policy decisions, the provision of financial support, and the making available of special library resources.

A CONVICTION that formal cooperation among various types of libraries would provide better library service in metropolitan Chicago motivated the formation of the Illinois Regional Library Council. As a member of the group which explored the desirability and then the possibility of a formal cooperative organization, the author participated in the planning process, the implementation of the plan, and, finally, as an active member of the board of directors and executive committee, in the work of the council. After this close look at networking in action, some observations on the implications of multitype library cooperation for special librarians are shared here. The fundamental one is that in networks the whole is indeed greater than the sum of its parts.

Special libraries have been involved in every stage of the development of the council. They currently constitute 40% of the 181 member libraries. The next largest group, 29%, represent academic libraries. Special librarians not only have been members in large number but have been active in all of the council projects.

Is Cooperation Necessary

Librarians in general, and certainly special librarians, take pride in cooperating well with one another. The bouncing health of SLA speaks well for the effectiveness with which special librarians do indeed work together. Yet, sizable areas of effective cooperation are almost unexplored. No special librarians think of their resources as limited to their own institutions. Most have many informal and sometimes formal relationships with other information resources. These

(contd. on page 20.)

Principles, Programs, and Problems of a Metropolitan Multitype Library Cooperative

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■ The first task facing a network administrator is identification of the individual units in the network. An understanding of the similarities and differences among these units and of the characteristics and needs of their users must be acquired. This information then must be communicated to all network members in order that each recognizes his role in the network and the relationship and value of this role to his everyday operations.

THE PRACTICE of working together and sharing resources on an informal basis has been such a long tradition among special libraries that it is not in the least surprising that special librarians are deeply involved in the development of formal structures which are required for the present cooperative movement. A specific cooperative in which special librarians have assumed leadership roles is the Illinois Regional Library Council. This paper will review the principles upon which the council's establishment and operation are based, the programs which have evolved over a three-year period, and some of the problems encountered in bringing all four types of libraries together under a single umbrella to solve mutual problems.

The Illinois Regional Library Council is the multitype, multipurpose, multicounty library cooperative serving the Chicago metropolitan area. Interestingly enough, it was a political scientist and not a librarian who called together a group of Chicago area librarians in late 1969 to propose the establishment of an agency devoted solely to stimulating cooperative activities among academic, school, public, and special libraries. Librarians accepted the challenge and met frequently over the next two years to formulate objectives and draft bylaws for the proposed multitype agency. The Statement of Objectives and by-laws were both adopted by 89 charter member libraries at the first formal meeting of the council on Jul 12, 1971 *(1)*.

The following principles are necessary, in the authors opinion, to the operation of a multitype library cooperative:

1. An organizational structure which allows for voluntary participation by a maximum number of libraries of all types, both privately and publicly supported.
2. Governance by members of the local library community. The governing body should be representative of all the types of libraries in the organization as well as the library user and the community.
3. Recognition that a cooperative exists as an added dimension for the improve-

(contd. on page 23)

Benson (contd. from page 18.)
resources have nearly always included the local public library and large academic institutions. They have never, to my knowledge, included so numerous a population of special, academic, and school libraries as are likely to participate in a metropolitan cooperative network.

Advantages

Here are some assertions that are largely untested but can be strongly argued.

Special librarians are not using all the resources potentially available to them. Limiting our discussion to document delivery, do most special libraries have any way even to identify: 1) the closest or most accessible copy 2) the unusual, or even unique copy, when that copy is not in an obvious place? If special libraries are not using total community resources, special library users are not fully served, and indeed users may not even be requesting items they know their library is not likely to be able to obtain.

Special libraries have no way to serve the entire metropolitan community and ordinarily serve only their own clientele and those of sister special libraries. Even those libraries whose companies or parent organizations are spending large amounts of money on public relations in one form or another are not likely to think of their company library in terms of service to the larger community. The information resources of special libraries are not available to all of those potentially important users who do not have access to the informal special library network. The metropolitan multitype library cooperative provides a formal channel for making total library resources of the community universally available for appropriate use.

If unduly heavy use of certain libraries should develop, some financial adjustments may have to take place. Keep in mind, however, that the systematic exploitation of ideas in the natural sciences, producing the almost staggering technical advances of the last two hundred years, have been made possible in part through the more or less free interchange of information. No one can pinpoint just which information demands are going to make contributions to the weaving of the fabric, yet the easier the interchange of information, the more chances there are for contributions. The institutions supporting special libraries have shown considerable awareness of the interdependence of institutions and ideas. Have librarians lagged behind? If it is the boss who is lagging behind, is the librarian prepared to show him what his company can gain through cooperative use of information resources?

Special libraries have something to give and something to gain by participating in a metropolitan area cooperative among all types of libraries. To digress for a moment, an anecdote from a Broadway play of some years ago fits in well. The time is shortly after the death of Jesus. Someone asks one of a little band of Christians about her new religion and is greatly impressed by the description of what the new religion is all about. "How wonderful," says the interrogater, "How does it work?" "We don't know," is the answer, "Nobody has ever tried it."

Although cooperation among all types of libraries flourishes around Chicago, it by no means includes the universe of those libraries. Until it does that, and until the sense of commitment on the part of participating libraries is whole-hearted, no one will know how cooperation works. It seems, according to the record, that the right track has been taken. A voluntary metropolitan cooperative is not necessarily the only way to help make all information resources available to all users. If, for example, a strong, well-financed national library existed, if different governmental structures were instituted, if strong state libraries grew up in every state (and it was the strong state library in Illinois that financed, with federal funds, the Illinois Regional Library Council), these institutions might accomplish some of the projects undertaken by a regional cooperative.

The basic concept that makes a cooperative work (besides money) is an outlook that goes beyond a librarian's parochial view of the information universe.

One characteristic of special librarians in the practice of their art is their ability to search out information wherever it may be, within the walls of the library or beyond. The multitype regional library cooperative asks, "How far beyond?"

How Does It Work?

To make a cooperative work, its members have to want it, they have to believe it will be effective, and they have to work to keep it useful in the library community. It takes vision, some aggressive planning, and, unfortunately, a lot of hard work to make any project a success. I cannot think of a special library in an institution that does not have planning and development personnel, often forming a sizable department in the institution, and typically heavy users of the library. With intense and usually highly professional planning going on all around them, special librarians should be able to make an effective contribution to planning. Planning the organization carefully is the first step toward success—or failure. Although librarians from all kinds of libraries may be accustomed to working together, special librarians have a long history of close cooperation with their colleagues, and long, hard experience in working with people outside their own institutions. Finding common goals for cooperation among types of libraries and solutions to common problems requires the use of all our professional experience from varied backgrounds. Aside from experience and ability, the crucial factor the librarian must bring to the cooperative effort is the ability to recognize similarities. In its basic function no library is different from any other library no matter how special the library. All librarians in any kind of library acquire information in various forms of print or nonprint, organize that material for use, and assist in its use. The activities involved in performing this basic function generate a large number of problems common to all libraries.

Planning includes, of course, the most difficult single problem of a cooperative funding. A program could be funded from membership fees. Such fees could hardly be high enough in the beginning period of a multitype regional library cooperative to do more than support a modest coordinating program. Such a program might indicate potential for a more sophisticated effort and could win support for growth and a more sophisticated demonstration. The vigorous program in northeastern Illinois has been made possible by solid support from LSCA Title III funds granted by the Illinois State Library. Additional, but minimal, support comes from membership fees. Nominal though this amount may be, it has been important in showing a spirit of willingness to participate in the cooperative venture by a significant number of libraries.

What Does It Do?

Dedication to cooperation is impressively shown in the council by lively member support of every one of the IRLC projects. Parenthetically, the organizing meetings, the annual meetings, and the special meetings and workshops the council have all been well attended, another indication of a widespread interest in formal cooperation.

The largest project the council has attempted is still in progress. This is a *Union List of Serial Holdings in Illinois Special Libraries*. As a first attempt at a local union list and a largely volunteer effort, the finished project is not expected to be perfect, but it can scarcely help being exceedingly useful to Chicago metropolitan area libraries. The information gain inherent in this kind of project is great. One of the most interesting is the usefulness of standardizing journal and serial entries in special libraries, a goal considered unimportant by many special libraries before the serials project. Surely the union list of serials and other cooperative bibliographic projects will provide incentive for adopting standards in special libraries.

Another council project which has had impact on special library members is the "Infopass" program. This project formalizes use of a member library by a pa-

tron of another member library. It requires the library requesting use by its patron to determine, by preliminary telephone call, whether the library to be used can indeed help the patron and to provide an identifying card (the "Infopass") by which the patron can gain entry to the cooperating library. A number of special libraries were fearful of requests for use beyond their capacity to respond. The "Infopass" provides a formal means of controlling use, and a measure for compensation if that should be desirable. In practice no library has been unduly burdened by "Infopass" users. Special library use by outsiders has not been extensive at all but remains an important resource for all types of libraries in those cases where referrals are appropriate.

The most potentially rewarding aspect of multitype library cooperation has been the provision of a vehicle for communication. While in our council such communication has only begun to take place, the potential is there. Although the American Library Association and the Illinois Library Association provide means for association and communication among types of libraries, unfortunately many special librarians, including law librarians and medical librarians, do not belong to ALA or ILA.

The requests each year for more frequent meetings of the council underlines the need for communication among various types of librarians, a need not really met by annual meetings of ALA and ILA. Special librarians, who meet frequently in their local chapter groups, know well the benefits of meeting together. The excellent volunteer support of the council projects, including many man-hours of volunteer work, indicates that the council is needed. The project to develop the five-year plan, so well described in Hamilton's paper (beginning on page 19), brought librarians from every type of library together to the great benefit of the council and perhaps of the participants. The work of the planning committee is continuous, and the members are now hard at work on various aspects of planning and on suggestions for implementation of plans.

Conclusion

Metropolitan cooperation has truly proved itself useful in Chicago. There were reservations about formalizing cooperation when it started. However, librarians are excellent at working together. Good, aggressive librarians have always had contacts with and used all types of libraries. Was still another organization necessary? Yes, it has worked. A regional council, whether it is an arm of a state library network as it may soon be in Illinois, or whether it is an autonomous cooperative body, has a function to perform. It formalizes good relationships among various types of librarians and provides a vehicle for communicating mutual needs and for providing for solving mutual problems. It does take a great deal of careful planning and a great deal of hard work. Special librarians are good at both of those. They have a lot to gain and a lot to give in regional cooperation.

Received for review Apr 17, 1975. Manuscript accepted for publication Aug 19, 1975. Presented Jun 10, 1975, as a Contributed Paper, during SLA's 66th Annual Conference in Chicago.

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Hamilton (contd. from page 19.)

ment of library service and should not replace, compete with, nor substitute for, its members, but should coordinate their activities. The cooperative leaders need to serve as persuasive advocates and catalysts in the coordination process in order to achieve membership support in implementing joint programs.

4. Awareness that although the diversity of interests and aims of potential members is broad and although physical facilities, collection sizes, and staff competencies vary considerably, there is a contribution each and every library can make, and benefits each and every library can receive, through cooperative membership. This reciprocity principle must prevail over the long term, if membership is to be universally meaningful.
5. Provision of communication channels for the exchange of ideas, for the expression of concerns, and for the identification of opportunities regarding problems which cut across type-of-library lines.
6. Support by the library community for the position that certain programs can be initiated more speedily or satisfactorily by a voluntary local cooperative than by other existing library or library-related organizations.
7. Endorsement by the cooperative's constituent members of the need for experimentation to find solutions to problems common to all types of libraries.
8. A full-time secretariat responsive to the expressed needs of the community.
9. Adequate funding from a source or sources outside the local community for a length of time sufficient to demonstrate the need for permanent local support. Full local support should be the ultimate aim; however, this support status must be preceded by widespread understanding that cooperative membership does not necessarily reduce costs, but can instead increase efficiency and extend resources, to deliver better service to the user.
10. A prevailing political environment receptive to cooperative library development.

The 1965 passage by the Illinois legislature of the Network of Public Library Systems Act resulted in the establishment of 18 public library systems covering the entire state. By the time of the council's founding in 1969, the successes of the emerging systems had produced an environment favoring formal organization of cooperative activities among all types of libraries. Although the means of bringing about interaction with the other types of libraries—academic, special, and school—were being explored by the systems, their first concern was with public library development. The strong leadership role taken by the Illinois State Library toward development of a fully integrated library network for the state was an important factor in the establishment of the Illinois Regional Library Council. The council was viewed as a prototype for multitype library cooperative development.

The council's bylaws call for an independent nonprofit corporation to be governed by a board of 15 directors. Directors representative of each type of library unit are elected by the membership. Thus, the council board is composed of eight directors representing school districts, junior college districts, colleges, universities, public libraries, public library systems, and special libraries in both profit and nonprofit institutions; three directors representing the largest research libraries in the metropolitan area (Chicago Public Library, Northwestern University, and University of Chicago); and four who are Directors-at-Large representing the community and library user. Directors may serve two three-year terms, with terms staggered to allow for election of one-third of the board each year.

The Statement of Objectives formulated by the Ad Hoc Committee on Organization was a deliberately flexible one. It was concerned primarily with four areas of action: the identification of the rich resources of the metropolitan area; the improvement of accessibility to these resources; the coordination of resources through joint effort in collection development to fill gaps and avoid expensive and unnecessary duplication, and the exchange of information.

Armed with a Library Services and Construction Act Title III start-up grant

administered by the Illinois State Library and comfortably settled in office space donated by the Suburban Library System, the new headquarters staff of two librarians launched the first council activity in July 1972—the publication of a monthly newsletter to members, *Multitype Library Cooperative News*. The newsletter is necessary to keep the membership informed about council developments and is also an effective device for member librarians to share information about continuing education opportunities, new services, unusual and expensive acquisitions, surplus furniture, equipment, and materials for sale or exchange, and about solutions to problems which are transportable to all types of libraries. The newsletter is exchanged with those of other multitype cooperative agencies.

The Clientele

A more challenging task was to become acquainted with the manifold aspects of library service in the 3,714 square mile council area (the Illinois portion of the Chicago Standard Metropolitan Statistical Area). According to the Lowell Martin study of 1969, there are about 1,500 libraries in this area *(2)*. Estimated monographic holdings are 25,000,000 or about 85% of the total library resources of the state. The area's library users number 2,750,000 out of a total population of 7,000,000 residents. The staff tried to identify all the area's libraries but learned quickly that this is a never-ending task.

Nevertheless, a membership campaign was directed to those which could be identified. The dues-paying membership at the end of three years of full operation totalled 192, of which 40% are special libraries, 29% academic, 25% public libraries and library systems, and 6% school districts. It may be of some interest to note that 40% of our members are publicly supported, while 60% are privately supported.

Initial Programs

The new staff had barely had time to get organized before the board urged the development of a program which would respond to questions from members about what they were going to get for the $50 annual membership fee they had paid in 1971. In searching for a program which could potentially benefit all types of libraries and which would achieve the primary objective of improved access to the area's library resources, it seemed logical to begin with a reciprocal privileges program. The Infopass Program, aimed at providing physical access to library users who need resources they are not ordinarily qualified to use, is based on the premise that cooperating members are willing to allow their resources to be used in a responsible way by patrons referred to them by other council member institutions. Information passports, or Infopasses, are issued to the user at his own library and are surrendered at source libraries. Completed Infopass cards are returned to the council office for statistical purposes.

Introduced to the full membership in the fall of 1972, the Infopass Program was received enthusiastically, perhaps because it was a voluntary program in which participation was possible on each individual library's own terms and also because it incorporated certain control features such as referrals based on a directory listing of resources and on an advance telephone call before an Infopass is issued. A directory of information resources in member libraries was in the process of compilation when the Infopass Program was adopted. It was generally agreed that such a resources directory was an essential tool of the new program if we were to abandon or rethink old habits of interlibrary use and referral and attempt a fresh multitype approach. Accordingly, the *1972/73 Infopass Directory* was issued at the beginning of the Infopass Program.

A second and expanded resources directory, *Libraries and Information Centers in the Chicago Metropolitan Area*, was published in the fall of 1973. This edition includes both member and nonmember libraries and provides individual entries for over 300 libraries and information centers, each entry including

historical background and objectives statements, open hours, collection descriptions, listings of official library publications, use privileges extended to Infopass holders, services including copying and microform reading equipment facilities, and staff listings. Indexes include a guide to subject strengths and special collections and a geographic index. A third edition, compiled entirely by volunteers, computer-produced, and containing descriptions for about 100 additional libraries, is planned for publication in 1976.

That the council headquarters should serve as a clearinghouse for professional information, as well as a resource for locating data not listed in the directory, was a conclusion quickly drawn by member libraries. From the time the headquarters office was established, information on course offerings, employment practices, salary schedules, professional associations, et cetera, was requested. To respond to this need, information on professional associations was included in the directories, salary schedules and surveys were collected, and a *Guide to Educational Opportunities for Librarians in the Chicago Metropolitan Area* was compiled and distributed to the membership. Although supplies of the guide were depleted quickly, up-to-date information is maintained at the council office and disseminated upon request.

Other Projects

A *Union List of Serial Holdings in Illinois Special Libraries* is being developed with a Higher Education Cooperation Act grant from the Illinois Board of Higher Education. By far the largest council undertaking to date, the project has had the assistance of 75 council member librarians who have done filing, verification, editing, and proofreading on a volunteer basis. The project began in mid-1973 with the awarding of a grant equivalent to approximately 30% of the funds needed to develop an automated system of the serials holdings of all council member libraries. In face of the reduced grant, it was decided to limit the project to include only the holdings of special libraries, as these holdings would not be included in any other system developing in the state. "Special libraries" were defined broadly to include those not always considered in this category, i.e., departmental and divisional academic libraries, research libraries such as John Crerar Library, and libraries of law, medical, and theology schools. The resulting system, due for completion in 1975, lists approximately 30,000 titles held by 142 libraries. In addition to generating the printed union list, the machine-readable file will be used to produce subject bibliographies and lists of holdings of individual libraries. The future maintenance of the file is being reviewed by the Standing Committee on Resources.

The last, but certainly not the least, council activity is that of the Board of Directors in providing a forum to which members, staff, and the public can bring library and library-related problems and inspirations. While many problems tend to differ between types of libraries, there are some common problems for which solutions are transportable to any type of library. The board, meeting in quarterly sessions, reviews proposals brought before it and reacts, sometimes by appointing study committees to review such proposals thoroughly. One example of this is the proposal for a cooperative compact storage unit proposed by the university librarian at Governors State University. This new senior university indicated its willingness to dedicate land and a building for such a facility if need could be proven and if the operation could be funded by participating libraries. The proposal is being investigated by a council committee of representatives from the University of Illinois administration, ILLINET's Last Copy Depot, Governors State University, John Crerar Library, Evanston Public Library, and the Center for Research Libraries.

Delivery

"Delivery Services" were listed as a high priority by members at the 1972 An-

nual Meeting. The staff took an inventory of existing delivery routes which were operating independently of one another and found that, by providing a few links and extensions, we could connect city and suburban services together to serve an additional 122 libraries. The NEIDS Service (NEIDS = Northeastern Illinois Delivery Service *not* "Nothing Ever Is Delivered Swiftly") was a pilot project for 8 months during which the council underwrote the cost of the extensions and gathered data on the volume of NEIDS deliveries on each route. At the end of the pilot project, the participating public library systems agreed to subsidize the complete service to fulfill their commitment to serve nonpublic libraries which were then becoming affiliated with the Illinois Library and Information Network (ILLINET).

As a result of discussions of problems and opportunities of groups of members during the Five Year Plan work sessions, a need for an additional delivery service became apparent. The problem: public library systems' deliveries from the Reference and Research Center at the University of Illinois in Urbana were taking a week to ten days via the mail. These deliveries constituted a considerable daily volume, i.e., almost all the interlibrary loan transactions generated by 207 public libraries which could not be filled within the metropolitan area and by the Illinois State Library. The opportunity was presented by the council president whose library at the University of Illinois at Chicago Circle was helping to subsidize a nightly shuttle service between University of Illinois campuses in Chicago and Urbana. With hardly any effort at all, arrangements were made for the shuttle service to piggyback the public library systems' deliveries and connect with NEIDS I Service which was already in operation. The total cost of NEIDS I and the Urbana NEIDS II (the links and extensions to existing services) is less than $5,000 per year. The entire cost is paid by the public library systems, with each system paying a portion of the cost prorated on the basis of volume handled during the pilot project. The council coordinates the NEIDS I and II Services, which are classic examples of multitype library cooperative services.

Long Range Planning

According to the L.S.C.A. Title III contract signed in 1972, the council staff was to develop a Five-Year Plan of Service during the first year of operation. We did not comply with this requirement but instead prepared for the task by gathering a body of facts relevant to the planning process. The Planning and Program Committee was finally constituted at the beginning of the second year.

Although there was some question as to whether a group consisting of school, community college, special, research, academic, public, Illinois State Library, and council staff representatives could see the total library picture well enough to devise a good plan, we did have two breakthroughs which assured close involvement by the membership. The first was "Status Reports by Types of Libraries" *(3)*. These were developed by Planning Committee representatives meeting with their individual constituencies and using a prescribed discussion schedule. An attempt was made to describe each type of library in terms of its basic mission, the nature of its external and internal environments, and its special problems and opportunities. A matrix of common problems and opportunities was prepared from these reports and in turn used to identify planning areas to be presented to the membership for the setting of priorities.

The second breakthrough was the all-day 1974 Annual Meeting during which some hefty two-way communication took place. The committee's work was reported to the full membership, which then divided into small groups for thorough discussion of the planning areas and for feedback to the Planning Committee. The planning areas were ranked and converted into future activity areas. The goals of the top three activity areas are: 1) resources to satisfy needs of clientele; 2) improved information service to all clientele: libraries and residents; and 3) competent personnel, performing well-

understood functions. Committees have been appointed and charged with developing solutions in these areas. The 1974/1979 plan is being transformed into the 1975/1979 plan.

Difficulties

What problems have we encountered in the past three years in pursuing the foregoing activities? Some are standard for any library cooperative; others, I suspect, are unique to our council.

First, the lack of assurance in continued funding has been an overriding concern. Council budgets, ranging from $55,918 in fiscal 1973 to $77,938 in fiscal 1975, support a full-time staff, pilot projects, and a publication program. The council has received almost 90% of its support from L.S.C.A. Title III grants and the remainder from membership fees, assessed on a straight formula basis of $50.00 per year per institution. Federal funding is recognized as only temporary. Full support of the council secretariat and program is not possible on membership fees only. The Board of Directors, in discussion with the Illinois State Library, recently developed a proposal for establishment of statewide and state-supported regional multitype library councils. Membership hearings on this and other permanent funding proposals were held in March 1975, resulting in the decision that the council would seek permanent funding on a statutory basis through the state legislature. A legislative program is tentatively planned for 1976.

Second, we seem to have an ongoing identity crisis. The council's role in relation to other local and state library agencies is evolutionary. Communicating the dynamics of this situation to the Illinois library community has been difficult. For example, in 1973, the Illinois State Library began to expand the 18 public library systems to include nonpublic libraries. Academic, special, and school libraries have become affiliated with the systems; even though the systems legally are made up only of public libraries. A Memorandum of Agreement which nonpublic libraries are asked to sign when they become affiliated with a system is similar to the kind of application a public library must submit to belong to a system. The agreement stipulates that: 1) the affiliate will honor the Illinois Interlibrary Loan Code; 2) the affiliate's budget will not be decreased as a result of network membership; and 3) the affiliate will provide the Illinois State Library with interlibrary loan data. The purposes of the agreement are to insure that the affiliate libraries will continue to maintain their normal level of services to their primary clienteles and that they will reciprocate the services they receive from the systems by providing materials and assistance when these are needed by the systems. This is an entirely voluntary arrangement, with affiliation costing nothing. At the present time, affiliation results in the provision of free interlibrary loan and information service to the nonpublic library.

The 18 public library systems, their public library members, their nonpublic library affiliates, the four Reference and Research Centers (at University of Illinois at Urbana, Southern Illinois University at Carbondale, Chicago Public Library, and the Illinois State Library), and the Special Resource Centers (the John Crerar and the University of Chicago Libraries) altogether make up the Illinois Library and Information Network *(4)*. ILLINET is thus moving toward becoming a multitype library network, with the force of inspired state library leadership and a ten-year tradition of adequate appropriations from the state legislature behind it.

The council is not presently on the ILLINET organization chart. Just where it, and future multitype library councils throughout the state, could fit is still a matter of debate. Beginning in July 1975, each system could hire a network consultant to work directly with affiliate libraries. The funding of network consultant positions through the Interlibrary Cooperation Project of the Illinois State Library is intended to bring the concept of multitype cooperation closer to the systems. With network consultants ready to make multitype library co-

operation a reality within their individual systems' geographic boundaries and with the advantage they have of being able to implement cooperative ventures through their systems, a Chicago metropolitan area librarian might logically ask, "When do I go to my network consultant and when do I go to the Illinois Regional Library Council to deal with a problem which is likely to have a solution through some kind of joint effort?" The answer to such a question and to how the council will relate to ILLINET must be forthcoming and presented with clarity to the library community and to the state legislature, if the council is to realize support for permanent status and state funding.

This external identity problem has, in turn, prompted the question of how well the council has helped its members identify their areas of responsibility within the council. Of fundamental importance was a definition of terms: What do we mean when we refer to "the council" as a "coordinating unit"? The Planning and Program Committee provided these answers: "The Board and Council staff are the coordinating units of the Council, acting only as operation units during short-term pilot projects. The member libraries are the action unit in their development and implementation of Council programs and activities."

These definitions get right down to the business of who is going to do what work. Not only is careful planning a prerequisite to solid achievement, but so is considerable investment in time. In dealing with institutions operating in the private sector and under numerous jurisdictions in the public sector, wide variation exists in the ability of members to commit the time necessary for projects to move ahead on a reasonable schedule. The council staff has limited time. This adds up to the decision that programs will not be launched until the manhours required can be provided by the members.

The fourth problem is certainly not unique to the Chicago Council: While the problem of improved physical access via the Infopass Program has been addressed, the problem of improved bibliographic access with the *Libraries and Information Centers in the Chicago Metropolitan Area* directory and the *Union List of Serial Holdings in Illinois Special Libraries* has barely been tackled. Three years have been spent dealing with methods of sharing resources, but no progress has been made toward developing methods of strengthening the resources to be shared. In the author's view, this is "where library cooperation is at" and unfortunately, time and funds for dealing with these problems have been, and are likely to continue to be, very limited.

In trying to integrate the serials records of 142 special libraries for the union list of serials, the staff was shocked into the realization that members need to be convinced that they must adher to bibliographic standards if they expect to interface with a large bibliographic data base. The solution to this problem will be an uphill task, in view of some members' contention that such adherence to standards cannot be justified for their internal operations and time is not available to develop a set of records which will be compatible with those of the larger library universe. It is, unfortunately, a matter of perspective.

A perennial problem in library cooperation has been the inability to devise quantitative measures for library services in order to demonstrate dollar savings in joint activities, to describe information resources precisely, and to evaluate objectively the accomplishments of cooperative library agencies.

And last of all, a problem which will surprise no one, is human attitudes. What library cooperative has not encountered the librarians who really believe they are already providing the ultimate service to their users and that this "ultimate" service does not need improvement? Or the unwillingness of parent organizations to change policies to allow their libraries to participate in cooperative activities? Or faced up to the lazy librarian who does not bother to learn the rules and to follow them, to make cooperative projects run smoothly? Or to the reluctance of one type of librarian to understand the roles

of other types? Or to the inflexible librarian who knows in advance that an experimental project is doomed—for reasons one, two, and three? Or to the vagaries of the political process?

Conclusion

Fortunately, positive attitudes have far outweighed the problem ones. To most of the Chicago area special libraries, informal cooperation was a way of life long before the council was founded. Now an even larger group of dynamic librarians is determined to make formal cooperation work. Some members have devoted untold hours of hard work on the board, in committees, and individually. They have spent time drafting bylaws, formulating objectives, identifying needs, writing papers, giving speeches, verifying serials entries, developing guidelines, planning, preparing posters, arranging meetings, attending meetings, studying budgets, driving to the state capitol, presenting ideas, communicating problems, and proclaiming successes. On the balance, the response of the Chicago library community to this cooperative has been the vital spark in whatever success it has attained.

Special libraries often belong to more than one network and library cooperative. Their librarians will probably recognize that some of the principles, types of programs, and problems enumerated here may well apply to networks and cooperatives other than multitype ones. The kind of broad participation possible in a cooperative serving all types of libraries, however, gives a new dimension to the cooperative experience. What special, public, or academic librarian would not benefit from interchange of ideas with the school librarian who has the opportunity to introduce children to innovative technologies and to good habits of library use? These children may someday become the corporate officers, the civic leaders and library trustees, the college students and faculty members who will bring to their special, public, and academic libraries the high expectations for library service which have been instilled in them earlier. What school, public, or academic librarian would not benefit from an understanding of the acquisitions practices of special librarians who have built highly specialized in-depth collections in certain subject areas? This can go all the way up to the point where all types of librarians, meeting together, mutually rediscover some of the perennial problems of librarianship and decide to go about solving them.

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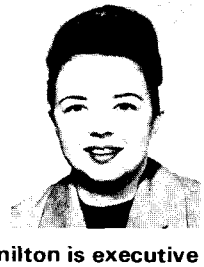
Received for review Apr 17, 1975. Revised manuscript accepted for publication Aug 19, 1975. Presented Jun 10, 1975, as a Contributed Paper, during SLA's 66th Annual Conference in Chicago.



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Terminal Equipment for On-Line Interactive Information Retrieval Using Telecommunications

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■ A basic tutorial on the telecommunications equipment usable for long-distance on-line information retrieval is presented. Characteristics of hard-copy and display terminals are included. Impact and non-impact methods of hard-copy output are explored and information on the capabilities and sophistication of display devices is included. A survey of equipment is appended.

INFORMATION retrieval is the search for and recovery of information from storage. In an automated *interactive* retrieval system the user is involved in the search process and makes a number of decisions during the search. The user provides data or keywords to which the computer responds with intermediate results, questions or answers to questions. The user's answers to these outputs cause additional machine processing to take place, providing further output.

In an on-line system the terminal may have a direct line connection to the computer. An alternative on-line configuration is a terminal connected to a telecommunications network to which the computer or its input/output controller is attached. Information exchange is accomplished by such a network through transmission of electrical signals in sound wave form over the intervening distances.

When data signals are to be transmitted over telecommunication lines, the computer's constant-level direct current pulses must be converted into signals suitable for transmission via telecommunication facilities; and the reverse process must be performed at the receiving terminal. This conversion is called modulation and demodulation and the device which accomplishes it is referred to as a modulator/demodulator (modem) or data set. An acoustically coupled modem permits data communication through the hand set of an ordinary telephone.

Transmission

Band width is an important consideration in telecommunications. Band width affects the range of frequencies that can be accommodated on a transmission medium, which, in turn, determines maximum transmission speeds. The broader the band, the greater the signal transmission rate.

One grade of band width is the voice band, which accommodates the frequencies of human voice communication. Public telephone lines use a band approximately 3,000 cycles wide, which does not transmit the whole range of the human voice but is sufficient for "legible" speech. Data transmission speeds over telephone lines typically range from 600 to 2,400 bits per second, with leased lines providing the higher speeds in this range. Broad band (or wideband) communication facilities have a much greater band

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width than voice band and therefore allow for very high transmission speeds. Narrow band (sub-voice grade) facilities are lines designed for telegraph or similar machines which transmit in the range of 45 to 300 bits per second, or approximately one-tenth the speed of voice band.

The band widths associated with some common telecommunications transmission media are listed below:

NARROW BAND:	Telephone Lines
VOICE BAND:	Telephone Lines
	AM/FM Radio Broadcasting
BROAD BAND:	Coaxial Cable
	CATV
	Microwave
	Communication Satellites

A variety of data communications arrangements are available. An organization may use the basic direct-dialing systems of the telephone and telegraph networks, may arrange for private or leased lines of various band widths, or may use the services of special data communications networks.

A major example of a data communications network is TYMNET, a U.S. coast-to-coast network, operational since 1970. TYMNET uses over 40,000 miles of leased telephone lines connected to many large-scale computers, as well as intermediary mini-computers located in or near each service area. Over 50 cities, including Paris and Brussels, are linked in this network. TYMNET uses the regional computers to compress the data received from individual terminals for transmission to the TYMNET communications processor near the computer service being accessed. This TYMNET communications processor provides the computer service with signals formatted properly for its use. Signals to be transmitted from the computer service to the user's terminal undergo a reverse process.

Although there are a number of communications codes used for data transmission over these systems, the most common codes are ASCII, the American Standard Code for Information Interchange and EBCDIC, the Extended Binary Coded Decimal Interchange Code. These codes use binary numbers to represent the characters and symbols of the language being communicated. Figure 1 shows part of the ASCII character set which uses a 7 bit per symbol pattern allowing the representation of 128 unique symbols.

Figure 1. ASCII Character Set

Character	Binary	Character	Binary	Character	Binary
Blank	0100000	5	0110101	J	1001010
!	0100001	6	0110110	K	1001011
"	0100010	7	0110111	L	1001100
#	0100011	8	0111000	M	1001101
$	0100100	9	0111001	N	1001110
%	0100101	:	0111010	O	1001111
&	0100110	;	0111011	P	1010000
'	0100111	<	0111100	Q	1010001
(	0101000	=	0111101	R	1010010
)	0101001	>	0111110	S	1010011
*	0101010	?	0111111	T	1010100
+	0101011	@	1000000	U	1010101
,	0101100	A	1000001	V	1010110
-	0101101	B	1000010	W	1010111
.	0101110	C	1000011	X	1011000
/	0101111	D	1000100	Y	1011001
Ø	0110000	E	1000101	Z	1011010
1	0110001	F	1000110	[	1011011
2	0110010	G	1000111	\	1011100
3	0110011	H	1001000	]	1011101
4	0110100	I	1001001	^	1011110
				←	1011111

• •

Types of Devices

There are two major types of on-line interactive terminals: hard-copy and display. Hard-copy devices imply some kind of printer, along with paper on which the data record is printed. Display devices are "glass terminals," that is, equipment which includes a screen. With the latter devices data are shown on the screen but no permanent record is made of the output. If hard-copy printed output is desired with a display device, that capability can be added, but it substantially increases the cost of the unit since a mechanism often must be added to adjust

for the speed difference between a high speed display terminal and the lower-speed printing device. Both hard-copy and display terminals depend on some kind of interactive keyboard device for data input.

Hard-Copy Devices

Hard-copy or printer devices fall into two basic categories—impact and non-impact printers. Impact printers are machines in which characters are printed on the paper by a character-face striking or impacting on the paper. The imprinting may be serial, that is, one character at a time, or printing of an entire line at a time. The speed range of present-day interactive impact terminals is generally 10 to 15 characters per second with over 150 characters per second available on newer, more expensive units. The familiar teletype machine is a commonly used impact printer. Additional types include the Centronics 308 Telewriter, the GE Terminet 300, and the IBM 2741. Costs and other information for these models are included in Appendix A: Survey of Equipment.

The non-impact printers implant an image by chemical, thermal or electromagnetic means and typically require the use of special paper. Thermal printers have a heated stylus that moves across specially coated paper and the character image is essentially burned into the paper. An ink jet printer sprays charged ink onto the paper in image patterns formed by electric fields. An electrostatic printer charges the paper directly, then develops the image by applying a toner to the paper. The advantages associated with non-impact printers are generally fewer mechanical moving parts which can wear out, normally higher printing speeds (30–120 characters per second), and lower operating noise levels. The main disadvantages relate to reliability of the image produced and the expense of the special paper required for various applications. Thermal printers are the most common non-impact terminals. Examples of thermal printers include the Texas Instruments Silent 700 models, the Execuport 300, and the CDI 1030.

Figure 2. Simple Cathode Ray Tube

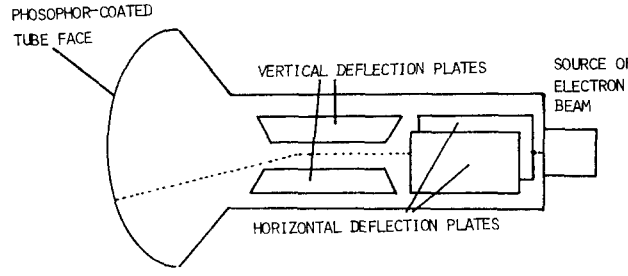
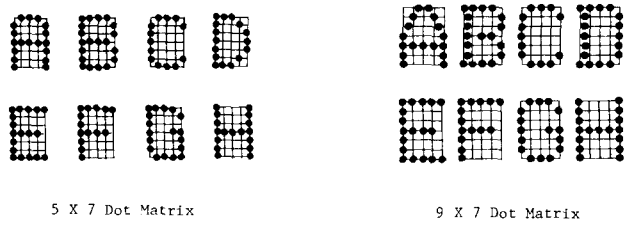


Figure 3. Generation of Characters by 5 × 7 and 9 × 7 Dot Matrices



Display Devices

Cathode ray tubes (CRT) are presently the most widespread type of display device. A simple diagram of a CRT is given in Figure 2. A beam of electrons controlled by electromagnetic fields set up across the path of the beam impacts on the back of the tube face and causes the phosphor-coated surface to emit light. Typically characters are generated from a pattern of dots. The screen in effect represents a grid of 5 × 7 or 9 × 7 dot matrices, and each matrix can display any letter or number (Figure 3).

Alphanumeric CRT terminals show a wide range of capabilities. Typically in the past they were grouped into two categories, "dumb" and "intelligent." However, the distinctions separating those two classes have become fuzzy. In fact, options available with a given model may change it to the higher class. An alternative typology designates display devices as either simple "teletype replacement" models or those with sophis-

ticated features and options which range over several levels. Identifying features of these levels are:

"Teletype Replacement"

1) Receives/sends bit serially.
2) Asynchronous transmission.
3) Keyboard: 53 keys.
4) Half and full duplex.

Sophisticated Capabilities

1) Buffering, e.g., internal storage.
2) Receives/sends in bit clusters or blocks rather than bit serially; synchronous transmission.
3) Keyboard: 60 to over 100 keys.
4) Polled, e.g., addressable.
5) Formatting/field protect capability.
6) Cursor read by CPU, i.e., the Central Processing Unit of the computer.
7) Text-editing capabilities.
   a) Basic.
   b) Advanced.
8) Programmable/mini-computer range.

"Teletype replacement" models, like a teletype machine, send in a bit serial pattern via asnychronous transmission; this means one character at a time is sent and signal bits are inserted to show the beginning and end of each character. The contrasting mode is synchronous transmission which sends blocks of characters at a time; it requires a mechanism for synchronizing the sending and receiving units for the start of transmission.

Switch-selectable half or full duplex transmission is common to "teletype replacement" CRT's. Half-duplex permits data to be sent in either direction, but only in one direction at a time. Full duplex means transmission can occur in both directions simultaneously.

The ability to operate in a polled network is a capability associated with more sophisticated display terminals. Polling is a means of controlling communication lines. There is a channel control or input/output control unit which services multiple terminals per communications channel and often multiple channels. The controller polls the terminals asking them one by one if they have anything to send. This process allows several terminal traffic streams to utilize a single high speed data channel going to the computer. While polling is making data communications more cost efficient, the capabilities which must be added to a terminal device increase somewhat the user's equipment investment. The terminal must 1) have a flag to indicate message readiness; 2) be addressable by the control unit; and 3) be able to respond to messages having its address code.

Formatting and field protect means that the user can format the screen with certain defined and fixed fields. When the variable data fields are filled in, they can be transmitted while the protected fields remain intact. For example, an on-line cataloging system might set up a display form which prompts the user to fill in author's name, title key, LC card number, or any other searchable item. The one or more entries inserted by the user can then be transmitted and used to search the data file.

"Cursor read by CPU" implies that the position of the cursor can be transmitted to the CPU (the Central Processing Unit of the Computer). The cursor is a bright marker on the screen which typically indicates the entry point for the next character typed. As characters are entered, the cursor moves from left to right across the screen. In more sophisticated display terminals the cursor can be positioned anywhere on the screen by the user or by the computer; when positioned by the user, the cursor's location is relayed to the CPU according to its X and Y coordinates.

Basic text-handling capability includes horizontal tab, character insert and delete, and line insert and delete. Advanced text editing includes such features as the ability to maintain paragraph integrity while using basic text-editing commands and validation checks for numeric or alphabetic input in user-defined fields.

As the previous listing implies, the top range CRT terminals include data manipulation using micro-computers with integrated keyboards and display screens.

An even higher level of processing is available in such devices as the Datapoint

2200; this is a mini-computer within a terminal console and is capable of a wide spectrum of general data processing activities.

An important convention to understand is the operating speeds which are quoted for various types of hardware. Manufacturers may give equipment speeds in bits per second, characters per second, or words per minute. A common character representation is a 7-bit character with additional bits for parity check, start, and stop; in this case bits per second can be derived by multiplying characters per second by 10. To obtain words per minute, characters per second can also be multiplied by 10. Sometimes telecommunication speeds are given in baud. Baud is the number of times the line condition changes per second. If the line condition represents the presence or absence of one bit, then the signaling speed in baud is the same as bits per second.

Summary

The preceding sections have described how interactive retrieval is supported by telecommunication facilities, the basic types of terminal equipment utilized in interactive systems, and various attributes of this equipment. For readers wishing additional information, a suggested list of readings is included. A listing of commonly used terminal equipment which is compatible with TYMNET and System Development Corporation's On-Line Bibliographic Search Services or Lockheed's Information Retrieval Service is given in Appendix B. Appendix A identifies some of the popular terminal models and provides a profile of each model, including its cost in terms of lease or purchase. It should be noted that the equipment survey is meant to be representative rather than comprehensive and that many other suitable terminals are also available.

APPENDIX A

Survey of Equipment. (Quoted prices are effective as of August 1975, Denver, Colo.)

Keyboard/Printer Devices—IMPACT

Model	TELETYPE 33 ASR (Automatic Send/Receive)
Manufacturer	Western Union Data Services Co.; Mahwah, New Jersey.
Cost	
Lease*	$47 per month.
Purchase	$1285—without built-in coupler; $1630—with built-in coupler.
Maintenance	$9–$18 per month.
Print Mechanism	Impact.
Speed	10 characters per second.
Character Set	ASCII.
Special Features	Includes paper tape punch and transmitter.
Model	GE TERMINET 300
Manufacturer	General Electric Data Communications Product Dept., Waynesboro, Va.
Cost	
Lease*	$136 per month.
Purchase	$3772—without built-in coupler; $4092—with built-in coupler.
Maintenance	$31.30 per month.
Print Mechanism	Impact.
Speed	30 characters per second.
Character Set	ASCII.

*This is a lease-purchase rate. A typical monthly rate on a lease-purchase arrangement is 3.5%–4.0% of the list price of the equipment for three years. Then with payment of an additional 10% of the original purchase price, the lessee can own the equipment.

APPENDIX A

Survey of Equipment (cont'd.)

Special Features	Wide carriage—option; magnetic tape or paper tape attachments—options.
Model	IBM 2741
Manufacturer	International Business Machines; White Plains, N.Y.
Cost	
Lease*	$145 per month.
Purchase	$4137—including line adapter; 10% educational discount available.
Maintenance	$25.50 per month.
Print Mechanism	Impact.
Speed	15 characters per second.
Character Set	EBCDIC or BCD.
Special Features	Interrupt Receive/Transmit—option.
Model	CENTRONICS 308 KSR (Keyboard Send/Receive)
Manufacturer	Centronics Data Computer Corp.; Hudson, New Hampshire.
Cost	
Lease*	$135 per month.
Purchase	$3745—without built-in coupler; $4045—with built-in coupler.
Maintenance	$30-$40 per month.
Print Mechanism	Impact.
Speed	165 characters per second.
Character Set	ASCII.
Special Features	Upper and lower case keyboard standard; can be programmed for a form print-out.

Keyboard/Printer Devices—NON-IMPACT

Model	SILENT 700 MODEL 733 KSR
Manufacturer	Texas Instruments; Houston, Texas.
Cost	
Lease*	$54 per month.
Purchase	$1500—without built-in coupler; $1895—with built-in coupler.
Maintenance	$120 first year; $15 per month thereafter.
Print Mechanism	Thermal printer, 5 × 7 dot matrix.
Speeds	10, 15, 30 characters per second—switch selectable.
Character Set	ASCII.
Special Features	Upper and lower case or upper case only; magnetic tape cassette unit—option.
Model	MODEL 735 PORTABLE DATA TERMINAL
Manufacturer	Texas Instruments; Houston, Texas.
Cost	
Lease*	$94 per month.
Purchase	$2595—available only with built-in coupler.
Maintenance	$120 first year; $15 per month thereafter.
Print Mechanism	Thermal printer, 5 × 7 dot matrix.
Speeds	10, 15, 30 characters per second—switch selectable.
Character Set	ASCII.
Special Features	Portable; upper and lower case or upper case only; magnetic tape cassette unit—option.
Model	EXECUPORT 320
Manufacturer	Computer Transceiver Systems Inc.; Paramus, N.J.

Survey of Equipment (cont'd.)

Cost	
Lease*	$104 per month.
Purchase	$2875—available only with built-in coupler.
Maintenance	$20 per month.
Print Mechanism	Thermal printer.
Speeds	10, 15, 30 characters per second—switch selectable.
Character Set	ASCII.
Special Features	Portable; upper and lower case or upper case only; 10 key numeric pad; magnetic or paper tape cassette—options.

Model	CDI 1030
Manufacturer	Computer Devices Inc.; Burlington, Massachusetts.
Cost	
Lease*	$108 per month.
Purchase	$3000—with built-in coupler; model 930—$2600 without built-in coupler.
Maintenance	$20 per month.
Print Mechanism	Thermal printer.
Speeds	10, 15, 30 characters per second—switch selectable.
Character Set	ASCII.
Special Features	Portable; separate numeric keyboard—option.

Display Devices

"TELETYPE REPLACEMENT"/"GLASS TELETYPE"

Model	DIGI-LOG 33
Manufacturer	Digi-log Systems, Inc.; Willow Grove, Pennsylvania.
Cost	
Lease*	$54 per month.
Purchase	$1495—(TV Set: $150–$300)
Maintenance	$20 per month.
Screen Size	This model contains an alphanumeric display driver
Display Format	(16 lines of 80 characters) which can be attached to a video monitor or slightly modified TV set.
Displayable	
Character Set	64 alphanumeric ASCII characters in 5 × 7 dot matrix.
Speeds	110 or 300 baud; transmission speeds of up to 9600 baud are optionally available.

Model	HAZELTINE 1200
Manufacturer	Hazeltine Corporation; Greenlawn, New York.
Cost	
Lease*	$58 per month.
Purchase	$1590—not available with built-in coupler; $1430 educational/governmental discount price.
Maintenance	$20 per month.
Screen Size	9″ × 5″.
Display Format	24 lines by 80 characters.
Displayable	
Character Set	64 alphanumeric ASCII characters in 5 × 9 dot matrix.
Speeds	
Range	110–9600 baud.
Selectable	Any two speeds—110, 150, 300, 600, 900, 1800, 2400, 4800, 9600.

Survey of Equipment (cont'd.)

Model	MINIBEE
Manufacturer	Beehive Medical Electronics, Inc.; Salt Lake City, Utah.
Cost	
Lease*	$65.
Purchase	$1795—not available with built-in coupler: 10% educational discount available.
Maintenance	Local arrangements must be made for maintenance service.
Screen Size	6 ¾″ × 9″.
Display Format	25 lines by 80 characters.
Displayable	
Character Set	64 alphanumeric ASCII characters in 5 × 7 dot matrix.
Speeds	Any one of the following: 110, 150, 300, 600, 1200, 2400, 4800, or 9600 baud.

MODELS WITH MORE SOPHISTICATED CAPABILITIES.
(Sometimes called "Intelligent CRTs")

Model	ADM-1 VIDEO DISPLAY TERMINAL
Manufacturer	Lear Siegler, Inc.; Anaheim, California.
Cost	
Lease*	$67 per month.
Purchase	$1848—without built-in coupler; $2118 with built-in coupler.
Maintenance	$25 per month.
Screen Size	6 ¾″ × 8 ½″.
Display Format	12 lines by 80 characters.
Displayable	
Character Set	64 alphanumeric ASCII characters in 5 × 7 dot matrix.
Speeds	
Range	110–9600 baud.
Selectable	Any two speeds—110, 300, 600, 1200, 1800, 2400, 4800, or 9600.
Polled	Option—$130.
Field Protect	Yes.
Cursor Read	
By CPU	Yes.
Basic Text	
Editing	Option.
Additional	
Features	24 lines by 80 character screen—option; extended keyboard—option.

Model	HAZELTINE 2000
Manufacturer	Hazeltine Corporation; Greenlawn, New York.
Cost	
Lease*	$108 per month.
Purchase	$2995—not available with built-in coupler; $2485 educational/governmental discount price.
Maintenance	$25 per month.
Screen Size	6″ × 9″.
Display Format	27 lines by 74 characters.
Displayable	
Character Set	64 alphanumeric ASCII characters in 5 × 7 dot matrix.
Speeds	
Range	110–9600 baud.
Selectable	(a) 110, 150, 300, 600, or 1200; (b) 110, 300, 1200, 2400, or 9600; (c) 110, 1200, 2400, 4800, or 9600.

APPENDIX A

Survey of Equipment (cont'd.)

Polled	Option.
Field Protect	Yes.
Cursor Read	
By CPU	No.
Basic Text	
Editing	Yes.
Model	SUPER BEE
Manufacturer	Beehive Medical Electronics Inc.; Salt Lake City, Utah.
Cost	
Lease*	$119 per month.
Purchase	$3295—not available with built-in coupler; 10% educational discount available.
Maintenance	Local arrangements must be made for maintenance service.
Screen Size	6 3/4" × 9".
Display Format	25 lines by 80 characters.
Displayable	
Character Set	128 ASCII characters in 5 × 7 dot matrix.
Speeds	Any one of the following: 110, 150, 300, 600, 1200, 2400, 4800, or 9600 baud.
Polled	Option—$300.
Field Protect	Yes.
Cursor Read	
By CPU	Yes.
Basic Text	
Editing	Yes.

APPENDIX B

Compatible Equipment for TYMNET/SDC and TYMNET/Lockheed

The identifying character for a terminal is a character input to the regional TYMNET communications processor each time the system is called so that the TYMNET system will communicate properly with the terminal being used.

Identifying Character	Terminal Device	Speed to Computer/ Speed to Terminal (characters per second)
A	Datapoint 3300, Infoton, and DigiLog, Hazeltine, and all other CRT terminals	30/30
	All terminals not requiring carriage return or line feed delays	
	CRT Terminals	
B	Model 37 Teletype (see J below)	15/15
C*	Gulton, Syner-Data	30/30

*C gives the longest delay (most fill characters). Try it for any terminal that is losing characters at start of line. If this action does not eliminate the loss, the terminal needs repair, since it provides almost 1 second of 30 fill characters.

†A type of printer that uses heat-sensitive paper.

‡The I terminal identifier may not be available for all locations. If so, the C identifier may be used.

Identifying Character	Terminal Device	Speed to Computer/ Speed to Terminal (characters per second)
	Tymshare Model 310/311 Beta Univac DCT-500	
D	Model 33 Teletype, Model 35 Teletype, CRT	10/10
E	All thermal printer† terminals; includes Teleterm 1030 and 300, Execuport, Texas Instruments Silent 725, Digi-Net, and NCR 260 terminals	30/30
	Tymshare Model 100 CDI 1030	
F	Same as C above, but slower input speed; recommended over C where telephone lines or other communication facilities are marginal	15/30
G	Memorex, GE TermiNet 300	30/30
H	Same as B above, except for parity	15/15 (even parity)
I‡	Texas Instruments Silent 733 and 735	30/30
J	Model 37 Teletype—even parity	15/15
N	All thermal printer terminals as noted in E but with slower input speed	15/30
CR (Carriage Return)	IBM 2741, Datel, Dura, Novar	14.8/14.8

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Received for review May 9, 1975. Revised manuscript accepted for publication Sep 21, 1975.

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HEER

Current Awareness Services—Observations of the Past and Present, and Implications for the Future

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■ A brief history of the College of Medicine and Dentistry of New Jersey Library's current awareness service shows the progression from manual participation, to an on-line system, and finally to access of the State University of New York's Automatic MEDLARS service. An evaluation of the service by its patrons demonstrates the need for and value of such a service to the literature research of the school's faculty. The obligation of medical librarians to supply current awareness to the physicians whom their libraries serve is emphasized. A relationship is drawn between the fulfilling of this information need and librarian involvement in the improvement of the delivery of health care in the United States.

THE LIBRARY at the College of Medicine and Dentistry of New Jersey (CMDNJ) has been offering a current awareness service to the school's full-time faculty since 1964. Its purpose has been to provide information on a regular basis on pre-selected subjects in anticipation of a request for that information. Rather than eliminating the need for the scanning and searching of journals and abstracting tools by the scientist, this service has supplemented ". . . the researcher's efforts to keep abreast of current literature and helps to ensure that documents directly related to current research are not overlooked" (*1*).

The original version, which was in existence until February of 1972, served approximately seventy-five individuals who were permitted to select up to eight subjects from *Medical Subject Headings*. The subject headings, with all the citations indexed under them, were then cut out of the monthly issues of *Index Medicus* as they were received, pasted onto legal-sized paper, photocopied, and sent to the requestor. This 'Mechanical Medlars' (*2*), as it was called, was processed by one or two part-time technicians.

As the college's faculty grew, both in numbers and information needs, 'Mechanical Medlars' became more tedious, more time-consuming, and less current. Fortunately, computers used for document retrieval were on the horizon and in 1970 the library became a member of the State University of New York's Biomedical Communication Network. In 1972, it expanded automated bibliographic retrieval activities by gaining access to Medline, a system created by the National Library of Medicine. Retrospective searches were performed

Table 1.

Department	Total Number of Full-Time Faculty	Number Served by Current Awareness	% Served by Current Awareness
Anatomy	17	13	.76
Biochemistry	11	7	.64
Dentistry	74	7	.09
Medicine	70	27	.39
Microbiology	14	7	.50
Neuroscience	4	3	.75
Obstetrics/Gynecology	15	6	.40
Pathology	21	7	.33
Pediatrics	29	2	.07
Pharmacology	10	8	.80
Physiology	14	11	.79
Psychiatry	17	3	.18
Public Health	15	4	.27
Radiology	22	12	.18
Surgery	57	12	.21
Administration	XX	5	XXX
Total	390	126	.32

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via SUNY, and the current awareness service was converted to computer processing using the Medline terminal. Although Medline, at the time the library started using it for this service, did not lend itself to recurring, monthly searches, it was still more feasible than manual preparation and in time, it seemed, improvements would be made.

Computerization

When SDILine became available, it made the task of processing 500 recurring searches each month easier. Yet, it was still not an optimum method. Each month pressure mounted to complete on-line searching of all the profiles as the number of people served with both recurring and retrospective searches increased and the number of people on the staff decreased.

Thus, in March of 1973, NLM was asked about the possibility of providing the service to CMDNJ library on an automatic basis. NLM agreed to do a trial run and six user profiles were submitted. NLM encountered several problems in the processing of these searches, and at that time, did not find this a feasible direction in which to go.

In August of 1973 NLM instituted its Medline charges of $6.00 per hour for computer connect time and $.10 per page for offline printouts. Since the library was already paying approximately $7,000.00 for participation in the SUNY Network, the thought of having to pay an estimated $300.00 a month for current awareness via Medline was not well received by the library's administrators. Patrons had not previously been charged and the staff did not feel that the library should be forced to initiate such a policy. Thus, an effort was made to impress upon the SUNY administration the urgent need for an automatic SDI service—in December of 1973 these efforts were rewarded.

Since late 1972 the SUNY Network had been in the midst of a revamping process—newer and higher speed terminals were being installed at all network locations; the overall system was streamlined with the addition of software and hardware improvements; and most fortunately, SUNY was in a position to provide the innovation for which several member libraries had petitioned.

With little difficulty, the precise formulation needed to enter each profile into the SUNY system was added to the search records. A unique, alphanumeric identification code was assigned to each formulation and in December 1973, almost all the current awareness searches

Table 2.

Total Number of Searches	593
Single-term	440
Coordinate	73
Coordinate with MeSH treeword	58
Title scan	21
Journal Specification	1
Language Specification	94
All Languages Desired	499

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were typed into the library's SUNY terminal and the computer was instructed to save them in the automatic MEDLARS file.

Once each month, when SUNY receives the new MEDLARS tape, the network's personnel run searches against that tape and mail the printouts to the library. The data which aids us in maintaining control over the system were recorded, cover sheets for each search are prepared, and mailed to faculty members.

As of January 1974, the service had been extended to 126 full-time faculty members or administrative personnel (Table 1). An average of 590 recurring searches were processed each month for these 126 people, producing an average number of 3.9 searches per person.

Awareness System Evaluated

An analysis by type of search (Table 2) shows that most patrons in a service of this type wish to receive all the citations indexed each month under a specific subject heading. They do not want to be restricted nor do they wish to limit their requests to English language articles.

The most important aspect of our analysis of current awareness by computer is the evaluation of the service by the faculty members receiving it. In November 1973, an eight-question evaluation form was mailed to each of the 121 individuals then receiving the monthly printouts. Of the 121 sent out, 102 were completed and returned; thus the analysis was based on the responses of 84% of the recipients.

When given the choice of four terms, "valuable, useful, adequate, or useless,"

Figure 1. Results of Patron Evaluation Questions 1–8

1. In general, how would you rate the usefulness of this service to you?
   - valuable 66%
   - useful 31%
   - adequate 2%
   - useless 1%

2. What use do you make of the printout each month?
   - Request and read reprints of cited articles 45%
   - Read through the bibliography to note trends in research in my specialty areas and file for later use 27%
   - Both of the above 26%

3. Do you pass the printout of citations and/or reprints of articles on to other members of the faculty?
   - yes 46%
   - no 54%

4. Do you tell other faculty members about the service?
   - yes 75%
   - no 25%

5. How would you evaluate the relevancy of *most* of the citations you receive?
   - relevant 68%
   - peripherally relevant 27%
   - irrelevant 5%

6. Has the number of citations retrieved for your subject specialties been . . .
   - more than your expectations? 47%
   - less than your expectations? 20%
   - equal to your expectations? 33%

7. To what would you attribute any disappointment or problems you've had with the service?
   - Data base being searched is not really applicable to my request 17%
   - Poor vocabulary formulation of my request 6%
   - Citations are not as current as I would like 11%
   - Physical makeup of the printouts and/or coversheets is awkward and bulky to use or file 33%

8. Do you use only this service to keep abreast of the literature in your field?
   - yes 40%
   - no 60%

to rate the value of the service, 66% of the respondents chose "valuable," while 32% chose "useful."

The final question of the evaluation was most significant because it really told the library how much a part of the faculty's literature research the service played. Asked if they use only this service to keep abreast of the literature in their field, 40% said yes; 60% said no, and then indicated some of the other sources they used.

The results of the patron evaluation prove that the Medical Library is providing a valuable means of automatic, monthly access to MEDLARS: for 40% of its users, it is an essential service. For these 41 individuals, the program fulfills the need to keep abreast of the current literature and research in their specialties. For the remaining 61 persons, the service is also valuable, although it is used in conjunction with other available services of a recurring nature, whether printed indexes or commercially prepared customized services. It must be noted that it was never the intention of the library to eliminate these other services, but rather to supplement them.

These statistics represent the service as of February 1974. At that time the library was forced to look with more scrutiny at the quantity and quality of the service in the light of certain developments in the SUNY Network. SUNY was no longer able to process the number of stored profiles each month at no additional cost; the main problems were the computer storage space allotted to the profiles, the amount of time needed to process the searches, the number of citations generated, and subsequently, the amount of paper being used. A charge of $0.03 per page for all off-line printouts was established by SUNY, and a charge of $1.00 per month has been set for each stored profile, except for 100 gratis searches.

As a result, all patrons were asked to limit their subject requests to two, with the intention that the library would still be able to provide the service on a no-cost basis to its users. If an individual still desired to receive all of his subjects, he would have to pay the full cost.

After each faculty member was interviewed and had restricted his requests to two subject areas, the decision was made to combine the two requests into one search profile. The disadvantage to this was the interspersion of citations for different subjects. However, few recipients objected, in some cases because the subjects were so closely related to each other that it made little or no difference and in others because this method eliminated duplication of citations which are indexed under both headings.

The obvious advantage to this method was that more profiles could be processed through the automatic MEDLARS file under the 100-gratis limitation. Thus, 100 search profiles were entered into the SUNY Network for batch-processing each month, and the remaining 50 or so are processed on-line at the library's terminal by a technician.

Summary

Thus, the experience with a current awareness program has progressed from manual preparation to an on-line system, and finally to an automatic, batch-processed method. This experience, together with the knowledge that the current awareness service is necessary to the health research being performed at CMDNJ, forces upon us the obligation to monitor the current awareness methods available, and to alert others to their capabilities and potential.

This leads to the question, "Who serves the information needs of the clinicians?" How are practicing physicians, working in hospitals, offices, and clinics alerted to the most recently published material in their specialties? Do they not have any information needs; or do they simply rely on interphysician communication and what might come across their desks in a limited number of journals? How do they know if new research is going on, what techniques or drugs are being experimented with, and how the latest medical investigations affect them?

Any theory that physicians who are not directly involved in research have no need for recurring bibliographies can be dis-

Table 3. Number of Recurring Demand Searches Performed by National Library of Medicine

Fiscal Year 1972	
8,323	United States
17,194	Foreign
Fiscal Year 1973	
3,681	United States
32,407	Foreign

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proved by realizing that one-third of the library's service is supplied to clinical physicians, and also by the Recurring Demand Searches from NLM which were received by physicians throughout the country until December of 1972 (Table 3). At that time, according to a letter of Sep 20, 1972, from Dr. Joseph Leiter to the Regional Medical Library Directors and MEDLARS Center Directors, the responsibility for RDS service would ". . . devolve upon the Regional Medical Libraries or the appropriate Medline Centers." What has happened to those recipients of RDS since their referral to Medline Centers?

By assuring physicians' rights to direct access to information, medical librarians have an opportunity to participate directly in the improvement of the delivery of health care in the United States. CMDNJ views current awareness programs as a major portion of that opportunity.

Librarians at all levels must be responsive to and responsible for the medical professionals' need for information on a recurring basis. The need for this information exists and the technology to fulfill that need also exists. Librarians must play a vital role in insisting that available technology be used to bring to fruition the potentialities contained in the concept of automatic SDI.

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Received for review Jan 13, 1975. Revised manuscript accepted for publication Jul 15, 1975. Presented Jun 5, 1974, at the 73rd Annual Meeting of the Medical Library Association, San Antonio, Texas.

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Special Libraries and NTIS

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SPECIAL LIBRARIES and NTIS have a natural community of interest defined by the word "special." Neither a special library nor NTIS endeavors to satisfy the total information needs of the community at large; rather only a specialized part of it.

The "special" nature of our missions derives from the role in decision making in the adult working community. The functions of specialized libraries and NTIS are to support practitioners at work with the information they need to make decisions, to further their enterprise, and to achieve professional advancement.

Neither entertainment nor spiritual and artistic enlightenment are offered. Nor are products and services designed to sharpen intellectual skills. Nor, finally, are they designed to increase the general literacy and level of knowledge of the average citizen. These are worthwhile functions in society, but they are not our functions. Other information institutions, operating according to different standards, must serve these functions.

The Costs of Other Institutions

To set the stage for thinking about the ways in which special librarians perform their function, consider some of these other information institutions—especially their costs and mechanisms for support. Entertainment is conveyed mainly through movies and television these days. You will find tens of millions of Americans spending $3 to $5 to see a movie of their personal choosing, lasting 2–3 hours. Cable TV charges its viewers $5 to $10 each month with viewer choice limited to "on-or-off." Regular TV charges the advertisers thousands of dollars a minute, thus subsidizing at a handsome profit free TV viewing, but with severely limited choice. Persons who buy books for entertainment now pay $10 to $20 for a novel. The purveying of information for entertainment is a costly business, and the greater the degree of personal choice, the higher the price to the consumer. People are, however, willing to pay the cost.

The sharpening of intellectual skills in formal education is also a costly business, perhaps the most costly part of the entire information business. Leaving aside the education of elementary and secondary school children at a cost of $100/month/pupil to state and community, we find that about 15 million adults are enrolled in formal adult education courses. To those people, paying $100 or considerably more for tuition and instructional materials in a course of their choosing is worthwhile.

Even those activities designed to increase the general level of knowledge of the average citizen are costly. The daily newspapers chosen by 40 million U.S. recipients cost them $6 to $10 each month, even with 80% of the cost being borne by advertisers. And public libraries cost the taxpayer almost $1 for each item circulated; costs are almost always borne

by the general taxpayer, through sales, income, and property taxes, not by the users, who generally are the small group of high income, well-educated people in the community.

Why Is NTIS Different?

NTIS performs for its user clients, these practitioners, a service at least as valuable as entertainment, education, and other enlightenment mentioned earlier. Where the practitioners are allowed to choose their information services directly, one would expect, then, no question about supporting the costs of that service.

When NTIS directly responds to and charges the ultimate user, there are, in fact, almost no questions about supporting the costs. The *Weekly Government Abstracts* newsletters have attracted about 15,000 individual (i.e., nonlibrary) users at prices of $25 to $165/year.

However, special librarians have questions—many questions—about the rapid increase in NTIS prices over the past four years.

NTIS Costs

The Congress has indicated (15U.S.C. 1151-7) that "each of the (NTIS) services and functions provided herein shall be self-sustaining or self-liquidating to the fullest extent feasible." The Congress recognized from the outset that NTIS was an activity to satisfy the practitioner's need for special information for practical purposes. ("The general public shall not bear the cost of publications and other services which are for the special use and benefit of private groups and individuals.") NTIS' predecessor organizations were unwilling or unable to strive to become completely self-sustaining, but NTIS is not, because the organization is convinced that its products and services are worth much more than even the current prices. There are also more powerful entities such as the Office of Management and Budget which are insistent that NTIS be completely self-sustaining. This means that all operational costs associated with collection, cataloging, abstracting, indexing, filming, copying, order processing, announcement and promotion will be recovered. However, capital equipment costs are still paid by appropriated funds.

The Library Situation

Some special librarians have problems paying for NTIS products. Their discretionary buying ability has not kept pace with the rise in prices of all information products, including those from NTIS.

The problem seems to center on the different value perceptions, and the different means for paying for purchases by libraries, on the one hand, and by the ultimate consumer, on the other.

Libraries are not the ultimate users of most NTIS products; they are intermediaries and agents for the user. Librarians therefore perceive the value of these products differently from the final user. It is difficult for a librarian to evaluate in dollars the worth of an individual item in the collection, except in comparison with similar items. Only the user can place the correct dollar value on a technical report which leads to a new or improved process or a new product for the market. Only the sales department or market research analyst can place the correct value on a socio-economic data file. And too often they "see through a glass darkly."

The special library, too, gets its operating money generally from the administrative budget, but users of NTIS products get their operating money from the project or program budget. My experience of some years ago as the head of Esso Research's Technical Information Division taught me how easily the library budget can be cut by administrative fiat, while the project budgets for research and development are much less vulnerable.

Special libraries should resolve this issue by thinking and acting completely as an agent of the user.

A Suggestion

What then is suggested here? The costs for information products and services

should be assessed wherever feasible against the user, which means in most cases the user's project. The library should bear the expense against its own budget only of items like encyclopaedias, compendia, and indexes. Many special libraries already act to some degree in this way. Journal subscription charges are spread among the journal readers; books purchased are charged directly to the requestor. At a meeting at the 1975 SLA Conference, a show of hands indicated that approximately 50% of the special libraries are now charging the ultimate user for computer searches. In this way the library acts as an arm of top management by monitoring overall information expenditures.

Unlikely as it may seem to many librarians, some libraries already encourage the independent (i.e., independent of the library) buying of books and journals by their clientele, operating on the principle that the easier it is for people to have the high-interest information they want, the greater their demand will be for all information services. The library of the Bell Telephone Laboratories buys fewer books and journals than its users, and gets more than 60% of its use outside the library itself, but Kenneth Lowry, the librarian, finds this practice encourages users to want even more library service of the "agent" type.

The best judge of the value of any product is the ultimate user, and the library should structure its operation so that purchases of as many information products and services as possible are determined and paid for by the library's users. I believe strongly that the information system will work best when those practitioners who use its products to serve their own needs are more directly responsible for, and pay for, those products. Better products will be produced; better services will be provided; there will be less noise in the system; and costs will ultimately be lower because of the elimination of inefficient producers.

There are counter-pressures, of course. Some groups are pushing strongly to have the Federal Treasury subsidize the library's collection of information products, as determined by the librarian. Special Libraries Association happily is not one of these groups. The kind of system in which the ultimate user neither determines nor pays for the information products and services provided through his library, and in which the library itself gets free or subsidized products, is likely to be costly and inefficient, and, in the author's opinion, less used by the practitioner-at-work. The decisions about what products to produce and how much to allocate to production and collection are, in this system, being made at the wrong level, and the result is more likely to be less than optimal.

On a Broader Level

These recommendations are also urged by the latest draft report of the National Commission on Libraries and Information Science. It calls for a user-controlled national information network. What has been suggested here is the means and procedures by which the user can, in fact, control it.

A key role of the librarian in the user-controlled national information network will be deciding which products and services should be determined and paid for by the user, and which the library itself should buy. This decision power should be exercised at the local level, not in Washington or in the state capital. Although the guiding philosophy should be to place maximum responsibility and control in the user's hands, some librarians will believe and act differently. The head of one major university medical library recently said that she preferred to absorb a new annual cost of $16,000 for online bibliographic searches rather than charge the users, although they had shown a willingness to pay. The rationale used was that educational services should be free of charge. Having the users pay in this case would not, for example, have required postponing needed library maintenance.

The other key library role, already standard special library practice, will be to act as the promoter for products and services which appear to have potential use by the library's clients. But only as a

promoter or broker and as the educator/trainer in their use; the buying decision and payment should be left to the user. To play this role adequately, the librarian must be thoroughly and currently familiar with, or knowledgeable about, the vast array of existing and new information products and services offered for public use. The librarian must also be expert in marketing and educational techniques. Is there a librarian who plays this role with ease and fulfillment in this information age?

The library at the National Bureau of Standards has moved forward along these lines in the past few years. In her introduction of computer-based on-line searches for the NBS staff, for example, this librarian faced the need for capital for library and user staff training, equipment, and advertising as well as the need for new operating funds for staff salaries and search fees. She is convinced that the library budget, itself, should have development money for initiating such new services, including the important element of free searches during the initial phases to attract users. NBS users, however, now bear the on-going operational costs of the search service out of project funds, not the library budget. It is also possible to recover, if desired, the capital development costs through the search fee to the users.

As an outgrowth of this first major fee-for-service library function, the NBS library has also begun considering applying user charges for other library services. For example, high demand users might be charged, whereas occasional users are not.

More important, the new service has created new avenues for integrating the library into the daily work of the user staff. Is it surprising that when the user is directly paying for library service, he takes a more active interest in it? Librarians skilled and knowledgeable about the multitudinous information sources, and about the best ways to access them have become more important to the NBS user.

Conclusion

In conclusion, the trend toward fee-for-service which is so evident in special libraries is one I applaud. It offers libraries a way out of their traditional dilemma of trying to justify to a skeptical management ever-increasing costs of the customary library services and added costs of new services, while simultaneously offering librarians a way to closer relationships with their users—the practitioners-at-work. It also establishes a sound economic footing for the user-controlled national network now being discussed. Once they break free of the stereotyped approach to library service as something for which users should *not* pay, librarians will find challenges to hitherto unused skills and professional aptitudes, and will obtain unaccustomed rewards for a job well done.

Received for review Jan 20, 1975. Revised manuscript accepted for publication Jun 25, 1975. Paper presented Jan 15, 1975, to the Florida Chapter, Special Libraries Association, St. Petersburg, Fla.

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The Small Company Library Can Be an Efficient Information Center

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■ There are many resources available whereby the small company library can and should become an effective information disseminator to its clientele. The standard reference books, handbooks, and encyclopedias pertinent to the various fields of interest of one's own clientele should be provided. Extensive use should be made of the applicable abstracting services, the various literature searches provided, the photocopying services, and microform collections, as well as interlibrary loan. From the various abstracting services, Current Contents, etc., effective SDI profiles can be prepared.

THE SMALL company library can and should be an efficient information center. With today's information resources and communication capabilities, the librarian of the small library has available almost all of the resources of the large information center.

Inasmuch as the small library is extremely limited with respect to both space and money, careful planning of the budget is a must. A large share of the library budget should be devoted to reference materials, bibliographic materials, and microfiche and microfiche-handling equipment. Many book and periodical collections are available on microfilm at a fairly nominal cost, and can be easily filed and stored in a very small space. Therefore microfiche/microfilm viewing (and perhaps printing) equipment is a virtual necessity.

One document in the form of microfiche may reference as many as 20 or 30 documents which have a bearing on the subject. It is usually possible to obtain microfiche copies of most documents referenced (often from NTIS). If this fails, usually the author or source listed can supply a copy. An interlibrary loan request will usually bring quick results. A small fee is ordinarily charged.

A sizeable chunk of the budget should go for the purchase of periodicals applicable to the several fields of interest of those whom the library serves. It is necessary to stock only those journals which are deemed best in the field and most pertinent. It is much more economical of both space and money to purchase an occasional photocopy from a journal than to attempt to keep copies of all journals which might have a bearing on work done in the industry or laboratory.

Specific reference material required will depend upon the type of library involved. A sturdy foundation of the standard reference books should be provided—such as: the various handbooks, dictionaries, and encyclopedias pertaining to one's particular fields of interest; the

almanacs and atlasses; the bibliographical sources, such as *American Men and Women of Science* and *Who's Who in America;* various bibliographic sources, such as the applicable *INSPEC Abstracts* and *Current Contents, Government Reports Announcements,* etc.; *Union List of Serials;* others depending on one's particular interests.

Outside Sources

Actually it is necessary to buy few books, limiting one's purchases to a few choice selections in each field of interest. One may rely heavily on interlibrary loan. Most universities are willing to lend books on an interlibrary loan request. The Library of Congress will not usually lend books that are in print. The Engineering Societies Library will lend to anyone who is a member of one of the member societies for a small fee (about $.50 per week per volume).

To speed up any of these requests, if there is a real need for haste, Wide Area Telephone Service may be employed to good advantage. A phone request, if it is not done excessively and without due reason, will usually bring quick results from most sources.

Search bibliographies can be obtained on any subject free of charge from both DDC and NASA by those facilities which are registered with these sources. Others may obtain search bibliographies from NTIS for a fee. These bibliographies usually come in a relatively short time—usually one or two weeks at most.

Using a Uniterm indexing system and a simple Fortran program, it is a simple matter to provide one's clientele with a quick survey of all the material available within one's own facility on a particular subject. A periodic (weekly or biweekly) listing of material accessioned into the library also helps to keep one's clientele informed as to what is available within one's own holdings.

University Microfilms is an excellent source for out-of-print books, since they will exhaust every effort to find a copy of the book desired and make copies of it for the nominal charge of about $.05 a page. A catalog of O.P. books which they have already processed is available on request; one may frequently find that the desired book is already available there for scarcely more than the price of a new book. Either paper copy or microfilm (at a lower cost) is available.

The PCMI Library Information System provides a collection of about 700 out-of-print books in science and technology on microfiche at a cost of little more than $1.00 a book. The entire collection—nearly a thousand books—fits into a small microfiche file drawer.

The Science Information Association is a non-profit corporation whereby corporations, universities, associations, and individuals, by contributing a fixed minimum amount per month, may have telephone line access through computer terminals to the large information banks stored in a computer system operated by the Battelle Memorial Institute Columbus Laboratories. Local telephone access is provided in over 35 major U.S. cities through the facilities of the Tymshare Corporation at considerable savings over normal long-distance rates. As last checked, the minimum monthly rate was approximately $100.00. For additional fees SDI profile services may also be obtained. All Tymshare computers are now linked together into a national network known as Tymnet, making it possible to access with a single telephone number any computer system associated with the network.

Received for review Jun 11, 1974. Revised manuscript accepted for publication Jan 30, 1975.

Virginia C. Frank is librarian, Applied Research Laboratory, Institute for Science and Engineering, Pennsylvania State University, State College, Pa.

sla news

1976 CANDIDATES FOR SLA OFFICE

For President-Elect

ECHELMAN

STERNBERG

Shirley Echelman is assistant vice-president and chief librarian, Chemical Bank, New York. She received the BSc from University of Nebraska at Omaha (1956) and the MLS from Rutgers University (1966).

She was librarian, Basic Economic Appraisals, Inc., New York (1960/65). She assumed her present position in 1966.

She was adjunct lecturer, Rutgers University Graduate School of Library Service, and is a member of the Board of Trustees of Public Affairs Information Service, and a member of New York Library Club. She has been elected to Pi Gamma Mu (national social science honorary society) and Beta Phi Mu (national library science honorary society). She received the H. W. Wilson Co. Award for the Best Paper Published in *Special Libraries* (1974) for "Libraries Are Businesses, Too!" (Oct/Nov 1974). The paper had been presented as a John Cotton Dana lecture at Dalhousie University and SUNY/Geneseo. She also contributed to "Networks and Cooperation; The Jurisdictional Debate: An LJ Mini-Symposium," *Library Journal* (Dec 15, 1974).

SLA Chapter Activities. In the New York Chapter she was second vice-president and bulletin editor (1968/70).

SLA Division Activities. In the Business and Finance Division she was chairman-elect and bulletin editor (1970/71) and chairman (1971/72).

At the Association Level. Division Liaison Officer (1972/74); Division Cabinet Chairman-Elect (1974/75) and Chairman (1975/76); member of Conference Advisory Committee (1972/76). A member of SLA since 1965.

Virginia Sternberg is a library consultant and is at present consulting for Westinghouse Hanford Engineering and Development Laboratory, Richland, Washington. She received the BA in chemistry from University of Delaware (1943), the MSLS from Drexel University (1950), and the PhD in library and information sciences from the University of Pittsburgh (1971).

Before entering the library field she was a chemist, Wilmington Chemical Corp., Wilmington, Del. (1944/46) and a bioassayist, Cutter Laboratories, Berkeley, Calif. (1947/49). She then went to Westinghouse Bettis Atomic Power Laboratory, Pittsburgh, Pa., as librarian (1950/69) and later became supervisor of their Technical Information Center (1969/72). She was appointed executive director, Pittsburgh Regional Library Center (1973/75) and has been a consultant since 1975.

She is a member of ASIS, ARMA, Society for Technical Communication, Pennsylvania Library Association, California Library Association, ACS, and AAAS. She has been a special lecturer at University of Pittsburgh library school.

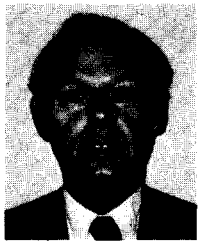
She published several papers in the 1950s on reports literature and business services in the field of atomic energy. Library related publications include "How to Locate Technical Information" (National Foreman's Institute, 1964), "Miles of Information by the Inch" (*PLA Bulletin,* 1967), contributions to *Encyclopedia of Library and Information Science* (Dekker, 1968), "Use of Federally Supported Information Analysis Centers by Special Libraries in Large Companies" (PhD dissertation, 1971), "Pittsburgh Regional Library Center" in *Resource Sharing in Libraries* (Dekker, 1974).

SLA Chapter Activities. In the Pittsburgh Chapter she was treasurer (1955/56), president (1957/58), bulletin editor (1958/61), held several Committee posts.

SLA Division Activities. In the Documentation Division she was secretary-treasurer (1957/58), chief teller (1959/60) and chairman (1975/76). In the Nuclear Science Division she was a member (1964/65) and chairman (1965/66) of the Nominating Committee.

At the Association Level. SLA 1956 Pittsburgh Conference, assistant treasurer; Personnel Committee (1965/70); SLA 1973 Pittsburgh Conference program chairman. A member of SLA since 1950.

For Treasurer (1976/79)



BARLOW

MOUNT

George W. Barlow is chief librarian, McGraw-Hill, Inc., New York. He received the BA degree from the College of William and Mary (1949) and the MLS from Columbia University.

He was librarian, Brooklyn Public Library, Brooklyn, N.Y. (1953/57); librarian, Hunter College, New York (1957/60); free lance writer (1960/62); reference librarian, Newsweek, New York (1962/68); director of editorial research, Look Magazine (1968/71); library manager, Standard & Poor's Corp., New York, (1971/75). He assumed his present position in 1975.

SLA Chapter Activities. In the New York Chapter he was chairman, Newspaper and News Group (1969); chairman, New York Chapter special salary survey (1974); Consultation Service Committee chairman (1975), and Nominating Committee (1975).

SLA Division Activities. A member of Business and Finance Division.

At the Association Level. A member of SLA since 1953.

Ellis Mount is science bibliographer, Columbia University Libraries, New York. After attending various undergraduate schools he received the MS in Physics from Northwestern University (1949) and the MSLS from University of Illinois (1950).

He was research associate, John Crerar Library, Chicago (1950/51, 1953/55), technical librarian, General Electric Aircraft Nuclear Propulsion Project, Evendale, Ohio (1951/53); and chief librarian, ITT Federal Laboratories, Nutley, N.J. (1955/64). He then went to Columbia University as science and engineering librarian (1964/74) and assumed his present position in 1974. He was a lecturer at the library schools at Queens College (1975) and at Drexel University (1975).

He is a member of ASIS and is chairman of the Subcommittee on Bibliographic References of the ANSI Z39 Committee. He is the author of *University Science and Engineering Libraries: Their Operation, Collections, Facilities* (Greenwood Press, 1975), and editor of *Planning the Special Library* (SLA, 1972). His articles have appeared in *Special Libraries, Publishers Weekly, College & Research Libraries,* and *ASIS Proceedings.* He is a member of Beta Phi Mu (national library science honorary society), and he received a fellowship from the Council on Library Resources to study university science-technology libraries (1972).

SLA Chapter Activities. In the New Jersey Chapter he was treasurer (1960/62), vice-president (1962/63), president (1963/64), Nominating Committee chairman (1965/66), Planning Committee (1967/68), and Consultation Officer (1968/69, 1974/75). In the New York Chapter he was chairman of the Seminar on Library Planning (1970/72), a member of the Nominating Committee (1971/72, 1974/75), and Archives Committee chairman (1972/76).

SLA Division Activities. In the Science-Technology Division he was treasurer (1967/69), chairman-elect (1973/74), chairman (1974/75), Awards Committee (1975/76), and Archives Committee chairman (1975/76).

At the Association Level. AAP/SLA Joint Committee (1964/69, 1970/72); Division Relations Committee (1964/68); *Special Libraries* Committee (1965/67); Publisher Relations Committee (1970/72), chairman (1967/69); SLA Representative to ASIS (1971/76). A member of SLA since 1951.

For Chairman-Elect of the Chapter Cabinet

PANCAKE

SEXTON

Edwina H. (Didi) Pancake is director, Science/Technology Information Center, University of Virginia, Charlottesville, Va. She received the BS in biology from Baylor University (1967) and the MLS from the University of Texas, Austin (1969).

She went to the University of Virginia Science/Technology Information Center as science information specialist (1969/73) and later became acting director (1973/74). She assumed her present position in 1974.

She is a member of the Virginia Library Association and has been secretary/treasurer and executive committee member of Virginia Microfilm Association. Her article "Intra-Library Science Information Service" appeared in *Special Libraries* 64 (nos. 5/6):228–234 (May/Jun 1973).

SLA Chapter Activities. In the Virginia Chapter she has been Public Relations Committee chairman (1970/71); bulletin editor (1971/73, 1975/76); president-elect (1973/74); president (1974/75); panel member at Chapter Institute on Reference Services (1971).

SLA Division Activities. She is a member of the Science-Technology Division and the Museums, Arts & Humanities Division.

At the Association Level. Advisory Council Agenda Committee (1973/74); chairman, Joint Cabinets Study Committee on Local Subject-Oriented Groups. A member of SLA since 1969.

Mary Sexton is group supervisor of library and technical editing, Bell Laboratories, Merrimack Valley Branch. She received the AB from Tufts College (1952) and the MLS from Simmons College (1955).

She was employed at the MIT Lincoln Laboratory Library while in graduate school. She was librarian, EG&G, Inc., Bedford Division (1955/73). She assumed her present position in 1973.

SLA Chapter Activities. In the Boston Chapter she was secretary (1969/70), Employment chairman (1970/71), bulletin editor (1971/73), Publications Committee chairman (1972/73), vice-president/program chairman (1973/74), and president (1974/75).

SLA Division Activities. She is a member of Science-Technology Division.

At the Association Level. 1972 Boston Conference Registration chairman; SLA program chairman for session at 1975 ASIS meeting (Boston). A member of SLA since 1957.

For Chairman-Elect of the Division Cabinet

RAYNES

SHAW

Virginia Raynes is manager, corporate library services, McDonnell Douglas Corp., St. Louis, Missouri. She received the BA from Michigan State University and took additional library courses at the University of California, Los Angeles, and the University of Southern California.

She was reference librarian at Douglas Aircraft Co. (1960/62) and head librarian, Data Systems Division, Litton Industries (1962/65). She returned to Douglas Aircraft as assistant supervisor, Technical Information Center (1965/67) and supervisor, (1967/70). She assumed her present position in 1970.

Her memberships include ASIS, Business and Professional Women's Clubs of St. Louis (currently president), Zonta, and Women's Political Caucus.

SLA Chapter Activities. In the Southern California Chapter she was on the Hospitality Committee (1965/69), Handbook chairman (1968/69), and corresponding secretary (1969/70). In the Greater St. Louis Chapter she was program chairman (1970/72), director-at-large (1972/73), and president (1975/76).

SLA Division Activities. In the Aerospace Division she was membership chairman (1968/69), secretary (1969/70), and student coordinator (1975/76). In the Documentation Division she was Nominating Committee chairman (1971/72), Hospitality Committee chairman (1973 Annual Conference), chairman-elect (1973/74), and chairman (1974/75).

At the Association Level. 1968 Fall Joint Computer Conference (SLA Seminar Committee); Government Information Services Committee (1969/71). A member of SLA since 1961.

Renata V. Shaw is bibliographic specialist, Library of Congress, Washington, D.C. She received the MA from University of Chicago (1949); Mag. Phil. University of Helsinki (1951); diploma in museology, Ecole de Louvre, Paris (1952); postgraduate work at Ecole de Chartes and the Sorbonne (1952/54). She received the MSLS from Catholic University of America (1962).

Before entering the library profession she taught French at Holton-Arms School, Washington, D.C. (1955/57); was a museum aide, National Gallery of Art, Washington, D.C. (1960); and taught Finnish, State Dept. Language School (1960/61). She went to the Library of Congress as reference librarian (1962/71) and assumed her present position in 1971.

She belongs to ARLIS/NA and the Policy Advisory Committee for the Library of the National Gallery of Art. She also belongs to Beta Phi Mu (national library science honorary society).

Her articles have appeared in *Quarterly Journal of the Library of Congress* and *Special Libraries*. She edited *Picture Searching*, a bibliography published by SLA (1973). She has also been a contributing editor to *Handbook of Latin American Studies* and *Encyclopedia of Library and Information Science.*

SLA Chapter Activities. She has been chairman of the Washington, D.C. Chapter Picture Group (1970/74).

SLA Division Activities. In the Picture Division she has been Publications chairman (1971/73), chairman-elect (1973/74), chairman (1974/75), and director (1975/76).

At the Association Level. A member of SLA since 1964.

For Directors (1976/79)

LANE

MAMOULIDES

SMITH

TSUFFIS

Robert B. Lane is director, Air University Library, Maxwell AFB, Alabama. He received the BA in English Literature (1954) and the MLS (1957) from the University of California, Berkeley.

Between 1958 and 1961 he worked in county libraries in Washington and California. In 1961 he accepted a position with the USAF in Germany as base librarian, Hahn AFB. In 1963 he was appointed area librarian with headquarters at South Ruislip Air Station, England, and in 1965 he became staff librarian, Turkish-US Logistics Group (TUSLOG), in Ankara, Turkey. In 1967 he returned to the United States where he was appointed chief, reader services, Air University Library. In 1971 he accepted appointment with the Library of Congress as field director for the LC PL-480 office in Karachi, Pakistan. He returned to the Air University Library in 1973 and assumed his present position in 1974.

He is a member of ALA and is currently president of the Federal Librarians Round

Table and editor of its newsletter for 1975/76. His report on the Conference on Interlibrary Communication and Information Networks (CICIN), held at Airlie House, Virginia, in Sep–Oct 1970, appeared in the Nov 1970 issue of *Special Libraries*.

SLA Chapter Activities. Alabama Chapter, Bylaws Committee (1975/76).

SLA Division Activities. Chairman-elect (1968/69), chairman, Military Librarians Division (1969/70).

At the Association Level. SLA Representative to the Conference on Interlibrary Communication and Information Networks (1970); *ad hoc* panel to review the final draft of the NCLIS final draft program document (1975); Networking Committee, chairman (1975/78). A member of SLA since 1967.

Aphrodite Mamoulides is library supervisor, Shell Development Company, Houston, Texas. She received a BS in chemistry from the University of Wisconsin in 1953.

She has been in her present position with Shell since 1953.

She is a member of Geoscience Information Society.

SLA Chapter Activities. In the Texas Chapter, she was a member of the Project Committee (1956/57), bulletin editor (1958/59), program chairman (1959/60), president-elect (1959/60), president (1960/61), Nominating Committee chairman (1961/63). She also worked with the Education and Recruitment Committees in planning courses given at University of Texas Graduate School of Library Science (1959/62) and helped plan a Library Assistants Workshop at the University of Houston (1967).

SLA Division Activities. In the Petroleum Division, she was secretary-treasurer (1959/61), chairman-elect (1966/67), and chairman (1967/68).

At the Association Level. Membership Committee (1958), chairman (1973/74); H.W. Wilson Company Award Committee (1970/71); Nominating Committee (1970/71); Special Committee to Study Association Structure (1969/72), chairman; Recruitment Committee chairman (1975/77). A member of SLA since 1954.

Ruth S. Smith is head librarian, Institute for Defense Analyses, Arlington, Va. She received the AB from Wayne State University (1939) and an ABLS from the University of Michigan (1942).

At the Detroit Public Library she was desk assistant/interlibrary loan clerk/junior librarian (1936/43). She was Lt. (j.g.) U.S. Naval Reserve (WAVES), Bureau of Ordnance Technical Library (1943/46); research assistant, University of Pennsylvania, Moore School of Electrical Engineering (1946/47); librarian, Bethesda Methodist Church (1955/61). She has been at Institute for Defense Analyses since 1961, as reference librarian, chief of reader services, and chief of the Unclassified Library Section. She assumed her present position in 1967.

She belongs to ASIS, holds an honorary membership in the Church and Synagogue Library Association (president 1967/68; Publications Committee chairman 1969/74), and Federation of Information Users (vice-president 1973/75). She is listed in *Who's Who of American Women.* She has written four publications for congregation libraries and several articles for *Special Libraries* about government information. She has also contributed to several library and religious education journals.

SLA Chapter Activities. She was a member of the Washington, D.C., Chapter Committee on Interlibrary Cooperation (1971/72).

SLA Division Activities. In the Aerospace Division she was chairman-elect (1974/75) and chairman (1975/76).

At the Association Level. Government Information Services Committee chairman (1971/75). Nominated by SLA and appointed by the Public Printer to Depository Library Council to the Public Printer (1975/78). A member of SLA since 1946.

Mary Lee Tsuffis is manager, Information Network Exchange Coordination, Xerox Corp., Rochester, N.Y. She received the BS in chemistry from Iowa Wesleyan (1948) and the MSLS from Drexel University (1950).

She was branch librarian, Brooklyn Public Library (1950/53); reference librarian, State University of Iowa (1953/56); and head of reader services, United Aircraft Corp., East Hartford, Conn. (1956/65). She went to Xerox Corp., Rochester, N.Y., as manager, Technical Information Center (1965/75). She assumed her present position in 1975.

She is a member of ALA, ASIS, National Micrographics Association, and American Society of Indexers, for which she is vice-president/president-elect. She has been a member of the Board of Trustees, Engineering Index, since 1972, and a member of the Advisory Committee of Librarians of the Rochester Regional Research Library Council (RRRLC) since 1967. She is also a guest lecturer for American Management Association on com-

pany library management. She was a contributing author to *The Black Librarian in America* (Scarecrow, 1970).

SLA Chapter Activities. In the Connecticut Valley Chapter she was on the Recruitment Committee (1959/60), secretary (1960/61), president-elect (1961/62), president (1962/63), board member (1963/64), Recruitment Committee chairman (1964/65) and director-at-large (1965/66). In the Upstate New York Chapter she was president-elect (1968/69) and president (1969/70).

SLA Division Activities. She is a member of Business and Finance, Chemistry, Documentation, Engineering, Metals/Materials, Publishing, and Science-Technology Divisions.

At the Association Level. Recruitment Committee chairman (1966/67); Chapter Liaison officer (1969/61). A member of SLA since 1957.

Ballots and voting instructions will be mailed from the Association's New York Offices in late March or early April.

Officers and directors who will continue to serve on SLA's Board of Directors in 1976/77 are:

Mark H. Baer who automatically succeeds to the office of President. **Miriam H. Tees** will serve as Past President. **Joseph M. Dagnese** and **Constance Ford** will serve the third year of their three-year terms (1974/77) as Directors. **Robert G. Krupp** and **H. Robert Malinowsky** will serve the second year of their three-year terms (1975/78) as Directors.

Actions of the Board of Directors Oct 2–3, 1975

The SLA Board of Directors held its Fall Meeting Oct 2–3, 1975, at the Gramercy Park Hotel in New York City. During the meeting the Board visited the Association Office to familiarize themselves with Association operations and to meet members of the staff.

FY 76 General Fund Budget—The Board approved the General Fund Budget for FY 76 (page 57). Subsidiary Fund Budgets, prepared for the first time for FY 75, were presented and adopted for FY 76.

Chapter and Division Allotments—The Board approved an increase in the annual allotments for 1976. Chapter allotments were increased to $3.75 per member; thus the increases in both 1975 and 1976 for Chapter allotments total 25% ($3.00 to $3.25 to $3.75). Division allotments were increased to $2.50 per member; the increases in both 1975 and 1976 for Division allotments total 25% ($2.00 to $2.25 to $2.50). The minimum allotment for Chapters is now $200. The allotments are paid for all member categories including Student Members. The allotments are paid both to Divisions and to Chapters for those members who have selected extra Chapter or extra Division affiliations. Allotment calculations are based on the membership count at the preceding Dec 31. The Dec 31 membership count is always the highest of the year. The allotment checks will be mailed as usual about mid-February 1976 and will be based on the Dec 31, 1975 statistics.

Government Information Services Committee—The Board approved the Committee proposal to conduct a survey of Government Printing Office practices in 1976.

New York 1977 Conference—The Board approved the theme "Worldwide Information Sources" for the 1977 Annual Conference in New York.

Chapter Activity—The Board approved the proposed boundaries for the Memphis Provisional Chapter as follows: that area in Ten-

nessee west of a north-south line immediately west of Nashville; that area in Mississippi north of an east-west line immediately north of Jackson-Vicksburg, and the entire state of Arkansas.

Division Activity—The Board granted full Division status to the Educational Provisional Division.

National Commission on Libraries and Information Science—The Board endorsed in principle the NCLIS document, "Towards a National Program for Library and Information Services: Goals for Action" (issued in July 1975). The document is available from GPO at $1.45 per copy (Stock No. 052-003-0086-5).

Librarian of Congress—On Sep 26 the U.S. Senate had approved the appointment of Daniel J. Boorstin as Librarian of Congress. The SLA Board authorized a letter to be sent to Dr. Boorstin to state SLA's interest in working with him and the Library of Congress so that LC can be more responsive to the needs of libraries of all types and their users throughout the nation. A specific recommendation is contained in the letter that Dr. Boorstin establish an appropriate mechanism to receive specific comments or criticisms regarding programs within LC.

General Fund Budget (Summary) Jan 1-Dec 31, 1976

Dues & Fees		$376,700
Less Chapter Allotments	(37,000)	
Division Allotments	(29,000)	
Student Group Allotments	(700)	
Contingencies	(200)	
Allocation to *Special Libraries**	(56,700)	
		(123,600)
Dues & Fees (Net, after allotments & allocations)		$253,100

INCOME, GENERAL OPERATIONS

Dues & Fees (Net)		$253,100
Contributions (Patrons & Sponsors)		2,000
Periodicals Program Budgets		
Special Libraries Program (Net)	12,400	
Scientific Meetings Program (Net)	3,600	
Technical Book Review Index Program (Net)	1,200	
		17,200
Conference Program Budget (Net)		56,100
Education Program Budget (Net)		2,600
Promotion Program Budget (Net)		(17,900)
Non-Serial Publications Fund (Transfer)		1,500
Equipment Reverse Fund (Transfer)		200
Interest Income		6,000
Mailing List Service		6,000
Miscellaneous		600
Income for General Operations		$327,400

EXPENSES, GENERAL OPERATIONS

Salaries (Net)	$147,500
Employee Benefits (Net)	36,300
Office Services	67,800
Occupancy Costs	42,800
Professional Fees & Services	21,700
Travel (Net)	15,800
Member Services	14,100
Systems Study/Programming	2,000
Salary Survey	10,000
Bank Charges	400
Depreciation on Furniture	1,400
Miscellaneous	200
Overhead Transfers from Program Budgets	$360,000 (56,100)
Overhead Transfers from Other Funds	(7,600)
NSP Postage & Handling Fees—Transfer	(3,000)
Expenses of General Operations	$293,300

Income for General Operations	$327,400
Expenses of General Operations	(293,300)
Anticipated Excess Income over Expenses	$34,100

*Required by Internal Revenue Service.

SLA Authors

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Matarazzo, James M., ed. "The Serials Librarian Acquisition Case Studies." Boston, Mass., Instructional Development Association, 1975 (by F. W. Faxon). kit: $165.00. (Introduction by **Thomas J. Galvin.**)

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Hannaford, Claudia and **Ruth S. Smith.** *Promotion Planning.* Bryn Mawr, Pa., Church and Synagogue Library Association, 1975. iv, 52p. $2.95. LC 75-6857. ISBN 0-915324-09-1.

Warner, Alice Sizer. "Information Services: New Use for an Old Product." *Wilson Library Bulletin* 49 (no. 6):440–445 (Feb 1975).

IN MEMORIAM

Dorothy A. Fayne, retired Naval Regional Librarian, Brooklyn, N.Y. . . . died Aug 3, 1975. She had been an active member of SLA since 1940.

Miriam Fitts, chief librarian, National Life Insurance Company of Vermont . . . died Jun 27, 1975. She was chairman of the Insurance Division from 1958 to 1959 and had been a member of SLA since 1946.

Sherrill E. McMillan, librarian, District Trust Office, Bank of America, San Diego, Calif. . . . died Jan 29, 1975.

Carroll F. Reynolds, Director of Falk Library of Health Professions at the University of Pittsburgh . . . died Sep 3, 1975. Dr. Reynolds was an associate professor of the history of the health sciences and a member of the graduate faculty of the School of Dentistry and the School of Library and Information Sciences, University of Pittsburgh.

Margo Sandor, head, Technical Services Department, York Public Library, Toronto . . . died Jun 22, 1975.

Frank Heaton Shoemaker, retired night chief, *The Philadelphia Inquirer* Library . . . died June 17, 1975, at the age of 72. He had been an active member of the Newspaper Division and chairman from 1945 to 1974.

Librarians-at-Large

SLA's Illinois Chapter members will be participating in an unusual Conference event at ALA's Centennial Conference in June 1976. Librarians-at-Large Day is co-sponsored by ALA and the Illinois Regional Library Council and will provide Conference attendees with an opportunity to obtain an actual one-day work experience in a local library.

The philosophy of the event is that a major objective of conferences should be the broadening of professional experience. They provide an opportunity to turn one's attention away from one's specific problems and to look at the profession as a whole. The kinds of work opportunities special libraries can offer are: review classification plans for a bank library; run MEDLINE searches in a hospital library and obtain hard copy from the shelves; help analyze work flow in a technical library; do picture searches in an advertising agency library.

SLA members working on the committee are Joseph Benson (Chicago Transit Authority), Beth Hamilton (Illinois Regional Library Council), Michael Madden (Schaumburg Township Public Library), David Reich (Chicago Public Library), Peggy Sullivan (University of Chicago, Graduate Library School), Edward Strable (J. Walter Thompson Co.) and Martha Whaley (First National Bank of Chicago).

Washington Letter

November 12, 1975

Science and Technology

The National Science and Technology Policy and Organization Act of 1975 (HR 10230) passed the House on November 6 by a vote of 362–28. Action can be expected soon on the Senate side on related measures. The House bill would provide an Office of Science and Technology Policy to advise the President, and would also establish a temporary Federal Science and Technology Survey Committee "to survey, examine and analyze the overall context of the federal science and technology effort, including missions, goals, personnel, funding, organization, facilities and activities in general."

Among issues to be seriously considered by the Survey Committee, according to the House Committee on Science and Technology which sponsored the bill, is improved handling of federally sponsored scientific and technological information. The Committee began giving serious attention to information problems in 1967, and has off and on since that time discussed possible recommendations for legislation to coordinate, unify and promulgate science information regulations for all the federal government's activities in this area.

"While this issue was not a major one discussed during the full committee's hearings in 1973–74," the committee report (H. Rept. 94-595) notes, "its shadow was nonetheless present. Staff inquiry indicated that a lack of rapport between the agencies and between the three basic federal science information systems—the Smithsonian's Science Information Exchange . . . the Commerce Department's National Technical Information Service . . . and the [National Science] Foundation's Office of Science Information Service (OSIS)—continued to exist."

An earlier version of this legislation, discussed in the August 1975 *Special Libraries* on p. 401, would have combined the existing federal science information agencies into a single government corporation. This approach has been abandoned for the time being at least by the House, which prefers to await a report from the proposed Survey Committee.

Museum Services Act

Sen. Claiborne Pell (D-RI) and Rep. John Brademas (D-IN) are cosponsors of the *Museum Services Act*, a bill which would establish an Institute for the Improvement of Museum Services within the Department of Health, Education, and Welfare. The Institute would receive up to $30 million annually to make grants to museums to increase and improve museum services.

The proposed museum legislation is part of a larger bill introduced by Pell and Brademas to extend the authorizations for the National Endowments for the Arts and the Humanities which would otherwise expire this year. Hearings began in both the House and Senate in mid-November on the overall bill which is called the *Arts, Humanities, and Cultural Affairs Act of 1975 (S. 1800).*

In describing the new proposal for assistance to museums, Sen. Pell has told the Senate that the bill would give federal support to museums to help them improve the services they offer to the public. They would receive grants to help them improve their displays, hire professional staff, meet some of their administrative costs, and in general to ease the financial burden borne by museums as a result of their increasing use by the public. As now drafted, the bill would also assist museums in cooperating with each other in the development of traveling exhibitions and identifying and locating collections available for loan.

Museum libraries are not specifically mentioned in the bill, but it is possible that some library-related programs would be eligible for the grants. The language of the bill may change however, in response to suggestions from museums themselves, related professionals and the public, which will be sought by the bill's sponsors during the course of hearings.

Metric Conversion

By a one-sided vote of 300–63, the House passed the Metric Conversion Act of 1975 on September 8, and the measure was then sent to the Senate Commerce Committee where hearings were held on this and related measures in October. No further committee action on the Senate side had occurred as this column went to press in mid-November.

The House-passed bill states that the United States is the only industrially developed nation which has not established a national policy committing itself to and facilitating conversion to the metric system, and that the Secretary of Commerce has found increased use of the metric system in the U.S. to be inevitable. The bill states also the finding of Congress that a coordinated national program is needed, in general "without federal subsidies," to effect conversion, and that "immediate attention" should be given to education of the public and to effective U.S. participation in measurement-related international standards activities.

The bill would establish a United States Metric Board, whose members are to be "broadly representative of American Society, including industry, labor, business, including small business, agriculture, commerce, the consumer, education, state and local government, science and engineering, the construction industry, and other affected groups." The duty of this Board would be to devise and carry out a comprehensive program of planning, coordination, and public education, with the aim of implementing the policy of conversion.

Special librarians and others interested in metric conversion should send for a copy of the House-passed bill (HR 8674) and the explanatory report issued by the House Committee on Science and Technology (H. Rept. 94-369 dated July 17, 1975). Also watch the Senate Commerce Committee for action on metric conversion in the next few months.

Sara Case
Washington, D.C.

STAFF DEVELOPMENT

The Current Literature Review Subcommittee (Staff Development Committee, Library Administration Division, ALA) presents its quarterly column.

Morano, Richard A. / Managerial Counseling for Organizational Effectiveness. *Personnel Journal* 54 (no.9):494–495,501 (Sep 1975).

Morano suggests five steps to help employees fulfill their achievement needs. "The point is not to crush or suppress the employee's motives, but to provide alternative goals which are attractive and more readily attainable than the original ones."

Hackman, J. Richard, Greg Oldham, Robert Janson and Kenneth Purdy / A New

Strategy for Job Enrichment. *California Management Review* 17 (no.4):57–71 (Summer 1975).

Job enrichment, the authors contend, can help organizations enhance employee output and provide a more meaningful work experience for the employee. A strategy is offered for the redesign of work. The discussion of job characteristics that make for employee motivation and satisfaction is helpful.

Singer, Henry A. / Human Values and Leadership. *Business Horizons* 18 (no.4):85–88 (Aug 1975).

A 10-year study sought to determine key personal traits that contribute to the success of administrators. The emphasis on the importance of human values to the success of the administrator makes the article thought-provoking.

Allen, Fred T. / Ways to Improve Employee Communications. *Nation's Business* 63 (no.9):54–56 (Sep 1975).

Pitney-Bowes has established a monthly forum which enables employees and management to meet and discuss mutual work related problems, issues and goals. The program boosts worker productivity and reduces both absenteeism and turnover.

Reif, William E., John W. Newstrom and Robert M. Monczka / Exploding Some Myths About Women Managers. *California Management Review* 17 (no.4):72–79 (Summer 1975).

The authors conclude that women managers are not significantly different from their male counterparts psychologically, and that the differences that exist serve largely to increase the probability of success.

Gannon, Martin J. / The Management of Peripheral Employees. *Personnel Journal* 54 (no.9):482–486 (Sep 1975).

This article examines the problems of handling peripheral employees; i.e., those who are not totally committed to the organization, but who instead view their roles as unimportant and easily dispensible. A review of research studies is included.

Hayes, James L. / What's Different About Younger Workers? *Supervisory Management* 20 (no.8):22–25 (Aug 1975).

Hayes suggests that participative management provides the best opportunity for getting in touch with the younger worker's values and proposes that after a mutual goal-setting exercise they should be left to do things their way "within the constraints of law, ethics, budget, policy, and procedure."

Higginson, Margaret V. and Thomas L. Quick / Needed: Career Counseling for Women Subordinates. *Supervisory Management* 20 (no.8):2–10 (Aug 1975).

This article suggests ways that a supervisor can assist women subordinates with career planning. It includes a quiz to help determine how strongly the employee feels about a career and proposes actions designed to assist in the self-evaluation process.

Liberman, Aaron, Roger L. Amidon, Paul M. Retish, Byron Arbeit, and Eugene Williams / Personal Evaluation—A Proposal for Employment Standards. *Public Personnel Management* 4 (no. 4):248–258 (Jul–Aug 1975).

The performance evaluation program presented is based on the objective assignment of numerical values to each performance trait. Employees are rated by peers as well as by the supervisor.

Brooker, W. Michael A. / Eliminating Intergroup Conflicts Through Interdepartmental Problem Solving. *Management Review* 64 (no.9):39–43 (Sep 1975).

The situation model of intergroup problem solving presented should be particularly helpful in large libraries where a formal communication program is necessary to the efficient flow of work.

Hinrichs, J. R. / A Feedback Program to Make Manager Development Happen. *Personnel Journal* 54 (no. 9):478–481 (Sep 1975).

Most managers have only a vague concept of what comprises effective managerial behavior and few have access to meaningful feedback about the quality of the job they are doing. This article discusses a program which provides such feedback.

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PUBS

(76-001) **Industrial Research Laboratories of the United States.** 14th ed. Edited by Jaques Cattell Press. New York, R. R. Bowker, 1975. 580p. $49.75. LC 21-27022. ISSN 0073-7623. ISBN 0-8352-0787-0

Directory includes geographic, personnel, and subject indexes.

(76-002) **Bibliographic Control.** Davinson, David. Hamden, Conn., Linnet Books, 1975. 124p. $8.00. LC 72-2353. ISBN 0-208-01367-9

Discussion of the bibliographic control of several forms of library materials.

(76-003) **Cataloging Phonorecords: Problems and Possibilities.** Daily, Jay E. New York, Marcel Dekker, c1975. 172p. (Practical Library and Information Science, v.1). $13.75. LC 73-90723. ISBN 0-8247-6196-0

Analysis of the unit-entry system of cataloging phonorecords.

(76-004) **Deutsche Kunstbibliotheken** (German Art Libraries): Berlin, Florenz, Köln, München, Nurnberg, Rom. Arbeitsgemeinschaft der Kunstbibliotheken (The Association of Art Libraries). Munchen, Verlag Dokumentation, 1975. 101p. ISBN 3-7940-3424-4

Description of the six libraries which comprise the Association of Art Libraries. In German, with English summaries.

(76-005) **Getting the Books off the Shelves: Making the Most of Your Congregation's Library.** Smith, Ruth S. New York, Hawthorn Books, c1975. 117p. $3.50 LC 75-5032. ISBN 0-8105-2953-0

Discussion of methods of promoting library use and publicizing the library.

(76-006) **Managing the Library Fire Risk.** Morris, John. Berkeley, Univ. of California, 1975. 101p. illus. $6.25. LC 75-24654

Treats the problem of fire risk in libraries, and how it can be met. Includes a section on automatic fire protection systems.

(76-007) **Directory of Associations in Canada.** 2nd ed. Land, Brian, ed. Toronto, Ont., Canada, Univ. of Toronto Press, 1975. 550p. $37.50. LC 73-85085. ISSN 0316-0734. ISBN 0-8020-4519-7

Subject index and alphabetical list of associations, with their addresses.

(76-008) **Microforms in Libraries;** a Reader. Diaz, Albert James, ed. Weston, Conn., Microform Review, c1975. 428p. $17.50. LC 75-6666. ISBN 0-913672-03-3

Selection of recent articles dealing with libraries' traditional uses of microforms.

(76-009) **Energy Information Locator;** a Select Guide to Information Centers, Systems, Data Bases, Abstracting Services, Directories, Newsletters, Binder Services and Journals. New York, Environment Information Center, c1975. 187p. $27.50. LC 74-79869

Published annually. Available separately or as part of the Energy directory update service ($85.00). Contact: Environment Information Center, Inc., Energy Research Dept., 124 E. 39th St., New York, N.Y. 10016.

(76-010) **The Picture File: A Manual and a Curriculum-Related Subject Heading List.** Hill, Donna. Hamden, Conn., Linnet Books, 1975. 140 p. $8.50. LC 74-30360. ISBN 0-208-01472-1

Manual for the organization and maintenance of a picture file, followed by a list of subject headings.

(76-011) **New Serial Titles 1950–1970, Subject Guide.** New York, R. R. Bowker, 1975. 2v. $138.50. LC 75-15145. ISSN 0098-2237. ISBN 0-8352-0820-6

Main arrangement is by Dewey number. Within that, arrangement is alphabetical under country.

(76-012) **Multi-Ethnic Media: Selected Bibliographies in Print.** Cohen, David, coordinator, Task Force on Ethnic Materials Information Exchange, Social Responsibilities Roundtable. Chicago, American Library Assn. Office for Library Service to the Disadvantaged, 1975. 33p. $2.00. ISBN 0-8389-3170-7

Annotated bibliography of in-print material relating to ethnic groups in America.

(76-013) **Modern Manuscripts;** a Practical Manual for their Management, Care, and Use. Duckett, Kenneth W. Nashville, Tenn., American Assn. for State and Local History, c1975. 375p. $12.00 (AASLH members), $16.00 (nonmembers). LC 75-5717. ISBN 0-910050-16-3

Scope is limited to manuscripts from the 17th century to the present. Includes illustrations, glossary, bibliography, and index.

(76-014) **Bibliography, Tiger or Fat Cat?** Dunkin, Paul S. Hamden, Conn., Archon Books, 1975. 120p. $7.50. LC 75-5634. ISBN 0-208-01519-1

Discussion of the development of bibliography.

PLACEMENT

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MLS Columbia 6/75, BA anthro.—Seeks ref. or docs. pos. in the northeast. 3 yr. museum archaeol./hist. res. exp., 1 yr. environm. impact work. 1 yr. libr. exp. Gov. docs. & Spanish. P. Haas, 421 W. 118 St., NY 10027.

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